
CONTENTS

	page
1. Introduction	1
2. Conclusions	1
3. Correlation	2
4. Geochemical parameters	
Summary of the analytical data	3
Bar diagram of normal alkanes & isoprenoids	5
GCMS sterane typing	7
GCMS triterpane typing	9
5. Analytical data (2x)	
GCMS data of the aromatic fraction	
Gas chromatogram of the saturated hydrocarbons	
Gross composition	
Sterane fragmentogram	
Triterpane fragmentogram	

Initial distribution:

Shell Risavika - 3 copies

SIPM-EPA/2 - 3 copies

**Correlation table
well 6407/8-2, Norway**

	6407/08-02 1749 m. S170895/ 2	6407/08-02 1753 m. S170896/ 2	6407/08-02 1738.5 m. S170598/ 1
OMC	impregn	impregn	6456
API	no data	no data	46.6
Sulphur (%)	no data	no data	0.1
Vanadium (ppm)	no data	no data	0.0
Nickel (ppm)	no data	no data	0.0
Pristane/Phytane	1.8	1.4	1.9
Pristane/n-C17	0.8	0.7	0.7
Phytane/n-C18	0.4	0.5	0.4
Gasoline fraction (%)	no data	no data	21.5
C7 ALKANES:			
normal	no data	no data	52
monobranched			38
polybranched			10
C7 ALKANES/NAPHTHENES:			
normal	no data	no data	23
naphthenes			55
branched			22
C7 VR/E	no data	no data	0.89
STERANES/TRITERPANES:			
iso-steranes	39	31	29
rearranged steranes	38	57	58
triterpanes	23	12	13
STERANE CONVERSION DIAGRAM:			
iso-steranes	46	36	36
rearranged steranes	30	45	49
normal steranes	24	19	15
STERANE CARBON NUMBER:			
C27 steranes	27	33	30
C28 steranes	29	28	33
C29 steranes	44	39	37
3R/3R+5R terpanes	0.20	0.20	0.14
Ts/Tm	0.61	1.16	1.29
20S/20(R+S) C29 steranes	0.50	0.55	0.52
iso/(iso+normal) C29 steranes	0.65	0.64	0.64
sterane VR/E	0.79	0.81	0.78
Carbon isotope ratios (per mil):			
total oil	-27.6	-28.9	-29.3
saturates	-27.9	-29.5	-29.9
aromatics	-27.2	no data	-28.5

**Summary of the Geochemical Data of the extract from
well 6407/08-02 (1749 m.), Norway**

Gravity and Gross Composition		Distribution of Ring Compounds <i>(Field Ionisation Mass Spectrometry)</i>	
% Extract :	0.3	C-15 Ring Compounds (%)	
% TOC after extract :	1.5	1 ring :	no data
Extract/TOC :	0.20	2 ring :	
Gross Composition (W%)		3 ring :	
Saturates :	45	C-30 Ring Compounds (%)	
Aromatics :	28	3 ring :	no data
Heterocompounds :	27	4 ring :	
Rest (High molecular) :	1	5 ring :	
Sulphur (%) :	no data	C-29 VR/E :	no data
Vanadium (ppm) :	no data	Sterane and Triterpane Distributions <i>(Gaschromatography / Mass Spectrometry)</i>	
Nickel (ppm) :	no data	Steranes/Triterpanes (%)	
Saturates Distributions <i>(Gaschromatography)</i>		Iso Steranes :	39
Pristane / Phytane :	1.8	Rearranged Steranes :	38
Pristane / n-C17 :	0.8	Triterpanes :	23
Phytane / n-C18 :	0.4	Steranes (%)	
ACI :	2	Iso Steranes :	46
Corr. Coeff. :	-0.4450	Rearranged Steranes :	30
C-7 Distributions <i>(Gaschromatography)</i>		Normal Steranes :	24
C-7 Alkanes (%)		Triterpanes (%)	
Normal C-7 :	no data	C-30 Hopanes :	100
Mono Branched :		Oleanane ($\alpha + \beta$) :	0
Poly Branched :		W + T :	0
C-7 Alkanes / Cyclo Alkanes (%)		Steranes Carbon No. Dist. (%)	
Normal C-7 :	no data	C-27 :	27
Cyclo Alkanes :		C-28 :	29
Branched Alkanes :		C-29 :	44
C-7 Alk. / Cyclo Alk. / Aromatics (%)		C-29 Sterane Ratios	
Alkanes :	no data	20S / 20R + 20S :	0.50
Cyclo Alkanes :		Iso / Iso + Normal :	0.65
Aromatics :		Triterpane Ratios	
Carbon Isotope Ratios <i>(Mass Spectrometry)</i>		TS / TM :	0.61
Total Sample (topped) :	-27.6	3R / 3R + 5R :	0.20
Saturates :	-27.9		
Aromatics :	-27.2		

**Summary of the Geochemical Data of the extract from
well 6407/08-02 (1753 m.), Norway**

Gravity and Gross Composition

% Extract :	0.2
% TOC after extract :	0.4
Extract/TOC :	0.50
Gross Composition (W%)	
Saturates :	58
Aromatics :	22
Heterocompounds :	19
Rest (High molecular) :	1
Sulphur (%) :	no data
Vanadium (ppm) :	no data
Nickel (ppm) :	no data

Saturates Distributions
(Gaschromatography)

Pristane / Phytane :	1.4
Pristane / n-C17 :	0.7
Phytane / n-C18 :	0.5
ACI :	13
Corr. Coeff. :	-0.9775

C-7 Distributions

(Gaschromatography)

C-7 Alkanes (%)	
Normal C-7 :	no data
Mono Branched :	
Poly Branched :	
C-7 Alkanes / Cyclo Alkanes (%)	
Normal C-7 :	no data
Cyclo Alkanes :	
Branched Alkanes :	
C-7 Alk. / Cyclo Alk. / Aromatics (%)	
Alkanes :	no data
Cyclo Alkanes :	
Aromatics :	

Carbon Isotope Ratios

(Mass Spectrometry)

Total Sample (topped) :	-28.9
Saturates :	-29.5
Aromatics :	no data

Distribution of Ring Compounds

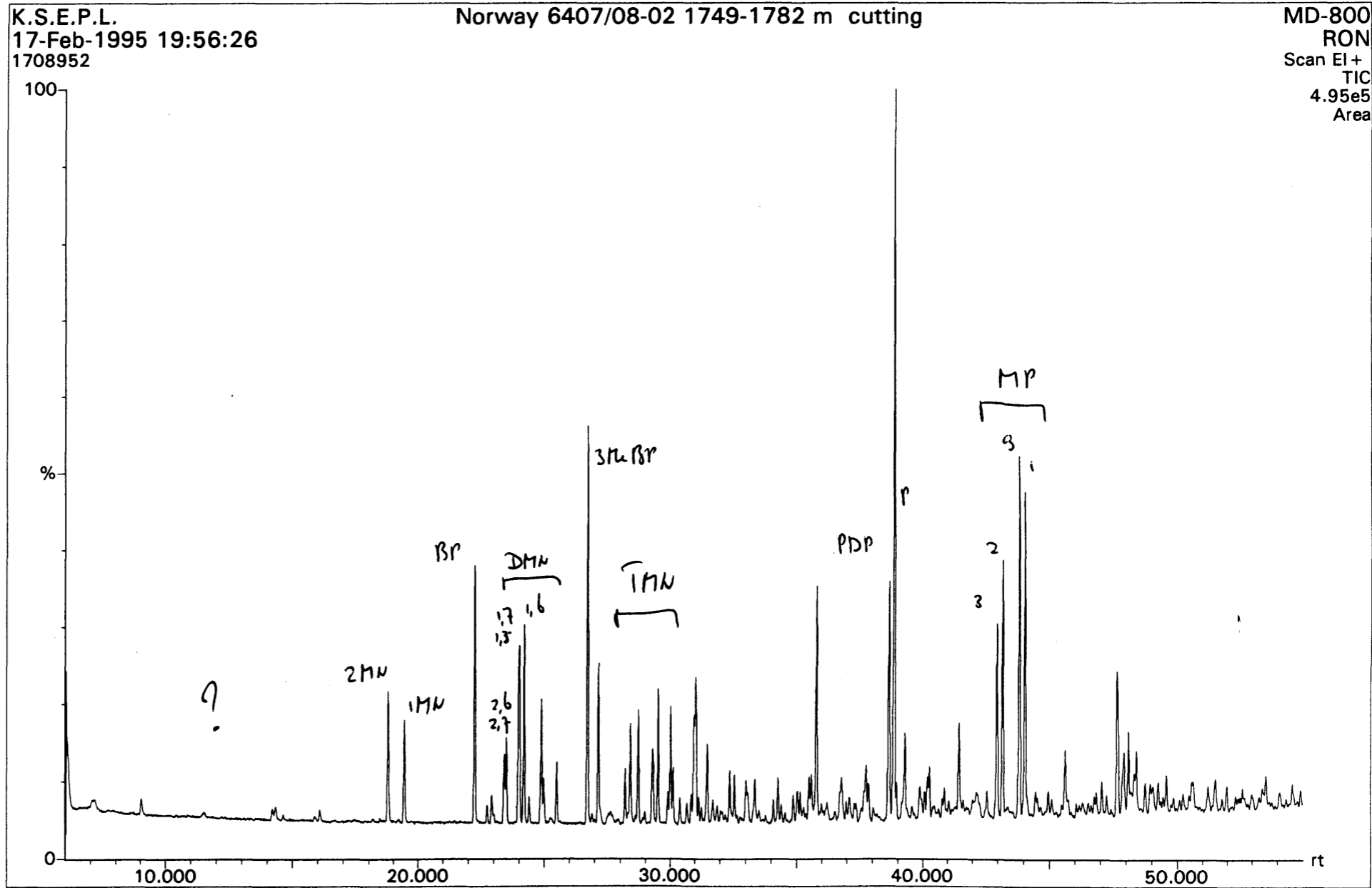
(Field Ionisation Mass Spectrometry)

C-15 Ring Compounds (%)	
1 ring :	no data
2 ring :	
3 ring :	
C-30 Ring Compounds (%)	
3 ring :	no data
4 ring :	
5 ring :	
C-29 VR/E :	no data

Sterane and Triterpane Distributions

(Gaschromatography / Mass Spectrometry)

Steranes/Triterpanes (%)	
Iso Steranes :	31
Rearranged Steranes :	57
Triterpanes :	12
Steranes (%)	
Iso Steranes :	36
Rearranged Steranes :	45
Normal Steranes :	19
Triterpanes (%)	
C-30 Hopanes :	100
Oleanane ($\alpha + \beta$) :	0
W + T :	0
Steranes Carbon No. Dist. (%)	
C-27 :	33
C-28 :	28
C-29 :	39
C-29 Sterane Ratios	
20S / 20R + 20S :	0.55
Iso / Iso + Normal :	0.64
Triterpane Ratios	
TS / TM :	1.16
3R / 3R + 5R :	0.20



GCMS data of the aromatic fraction well 6407/08-02 (1749 m.), Norway

Report of sample: Norway 6407/08-02 1749-1782 m cutting
Acquired at : 17-Feb-1995

Standard used for calculations: PDP
Discrimination factor : 0.09

I) NAPHTHALENES

a) Concentrations (ppm)

2-MN
1-MN
2,6+2,7-DMN
1,6-DMN
1,5-DMN
1,3,5+1,4,6-TMN
2,3,6-TMN
1,2,5-TMN
C4-NAPH
THN
CAD
Total Naphthalenes

b) Parameters

2-MN/1-MN (MNR) 1.31
2,6+2,7-DMN/1,5-DMN (DNR-1) 1.28
2,3,6-TMN/1,3,5+1,4,6-TMN (TNR-1) 1.25
2,3,6-TMN/1,2,5-TMN (TNR-2) 2.12
2,3,6-TMN/THN n.d.
2,3,6-TMN/Cadelene n.d.

II) PHENANTHRENES

a) Concentrations (ppm)

P
3-MP
2-MP
9-MP
1-MP
Total Phenantrenes

b) Parameters

2-MP/1-MP 0.81
1.5*(2+3-MP/(P+1+9-MP)) (MPI-1) 0.40
3*(2-MP/(P+1+9-MP)) (MPI-2) 0.45
2+3-MP/1+9-MP 0.64
2+3-MP/1+9+2+3-MP 0.39

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)

DBT 92
4-MDBT 109
2+3-MDBT 47
1-MDBT 27
Total Dibenzothiophenes 276

MN = methylnaphthalene
DMN = dimethylnaphthalene
TMN = trimethylnaphthalene
THN = tetrahyronaphthalene
DBF = methyldibenzofuran
MDBF= methyldibenzofuran
NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN

b) Parameters

218 4-MDBT/2+3-MDBT 2.31
167 4-MDBT/1-MDBT 4.01
191 2+3-MDBT/1-MDBT 1.73
221 4-MDBT/DBT 1.18
149 2+3-MDBT/DBT 0.51
122 1-MDBT/DBT 0.30
151

IV) BIPHENYLS

a) Concentrations (ppm)

n.d. BP 423
n.d. 2-MBP 17
1318 3-MBP 436
4-MBP 174
Total Biphenyls 1050

b) Parameters

1.28 3-MBP/BP 1.03
1.25 3-MBP/4-MBP 2.50
n.d. 3-MBP/2-MBP 25.43
n.d.

V) DIBENZOFURANS

a) Concentrations (ppm)

DBF 89
1399 4-MDBF 69
279 2+3-MDBF 81
364 1-MDBF 57
552 Total Dibenzofurans 296
451

b) Parameters

4-MDBF/2+3-MDBF 0.84
4-MDBF/1-MDBF 1.21
0.81 2+3-MDBF/1-MDBF 1.43
0.40 4-MDBF/DBF 0.77
0.45 2+3-MDBF/DBF 0.92
0.64 1-MDBF/DBF 0.64
0.39

VI) OVERALL RATIOS

Biphenyls/NAPH* 1.71
Dibenzothiophenes/NAP 0.45
Dibenzofurans/NAPH* 0.48

P = phenantrene
MP = methylphenanthrene
DBT = dibenzothiophene
MDBT= methyldibenzothiophene
BP = biphenyl
MBP = methylbiphenyl

*GCMS data of the aromatic fraction
well 6407/08-02 (1749 m.), Norway*

VII) Misc. NAPHTHALENES

a) Concentrations (ppm)

2,6-DMN	88	4,5-DMP	7
2,7-DMN	103	2,6+3,6-DMP	48
1,3+1,7-DMN	281	3,5-DMP	47
1,6-DMN	221	2,7-DMP	32
1,4-DMN	n.d.	3,9-DMP	286
2,3-DMN	52	1,6+2,5+2,9-DMP	130
1,5-DMN	149	1,7-DMP	119
1,2-DMN	62	1,9+4,9-DMP	106
1,4+2,3-DMN	52	1,5-DMP	n.d.
		1,8-DMP	32
		1,2-DMP	18
		9,10-DMP	n.d.
1,3,7-TMN	92	1,2,6-TMP	8
1,3,6-TMN	131	1,2,5-TMP	11
1,3,5+1,4,6-TMN	122	1,2,9-TMP	5
2,3,6-TMN	151	1,2,7-TMP	n.d.
1,2,7-TMN	32	1,2,8-TMP	12
1,6,7-TMN	137		
1,2,6-TMN	57		
1,2,4-TMN	14		
1,2,5-TMN	71		
1,3,5,7-TeMN	10		
1,3,6,7-TeMN	55		
1,2,4,7-TeMN	33		
1,2,5,7-TeMN	17		
2,3,6,7-TeMN	16		
1,2,6,7-TeMN	10		
1,2,5,6-TeMN (C4-NAPH)	27		

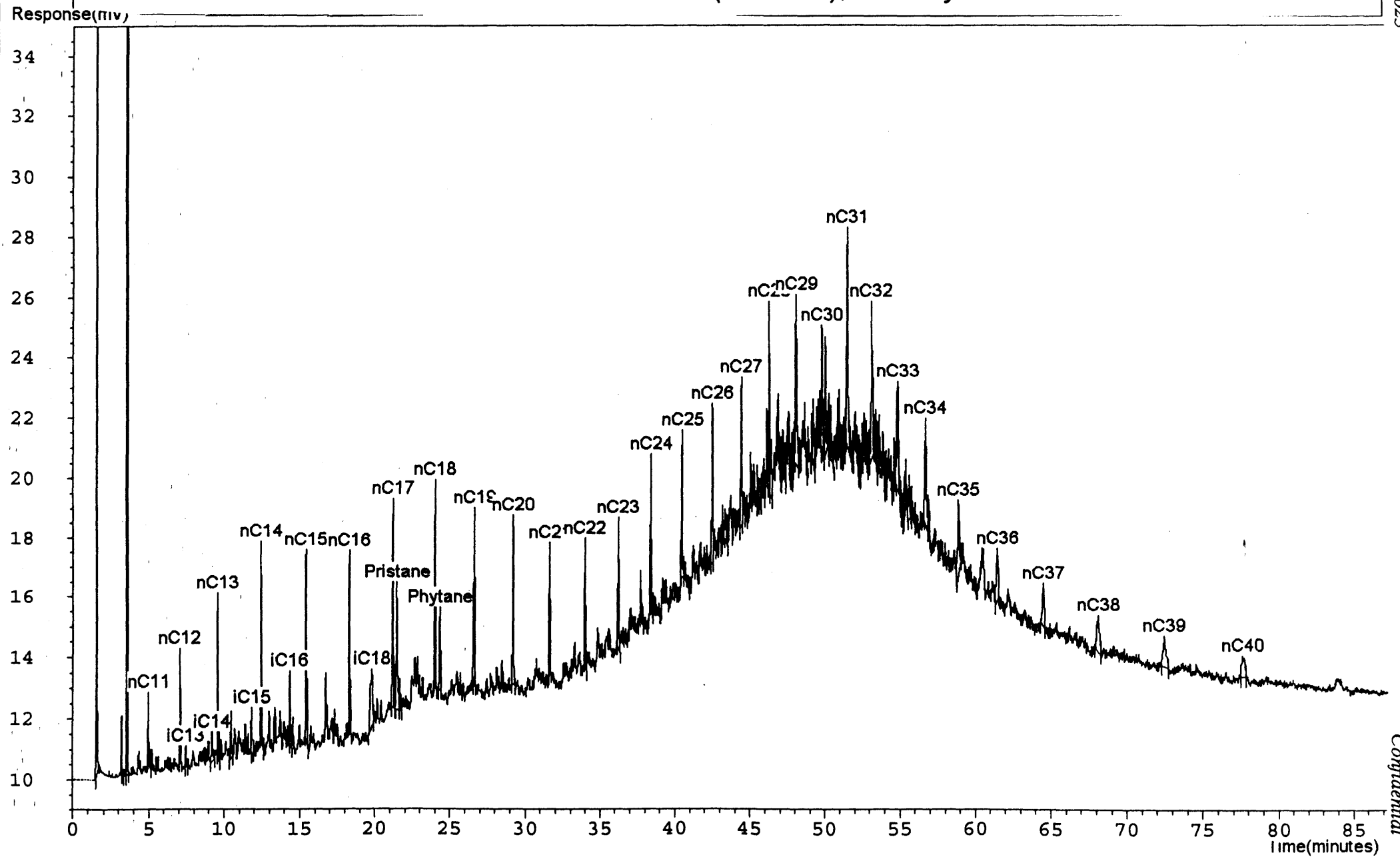
b) Parameters

1,2,5-TMN/1,3,6-TMN 0.54

1,2,7-TMN/1,3,7-TMN 0.35

The assignment of some of these peaks is tentative

Gas chromatogram of the saturated hydrocarbons of the extract from well 6407/08-02 (1749 m.), Norway



S17089902

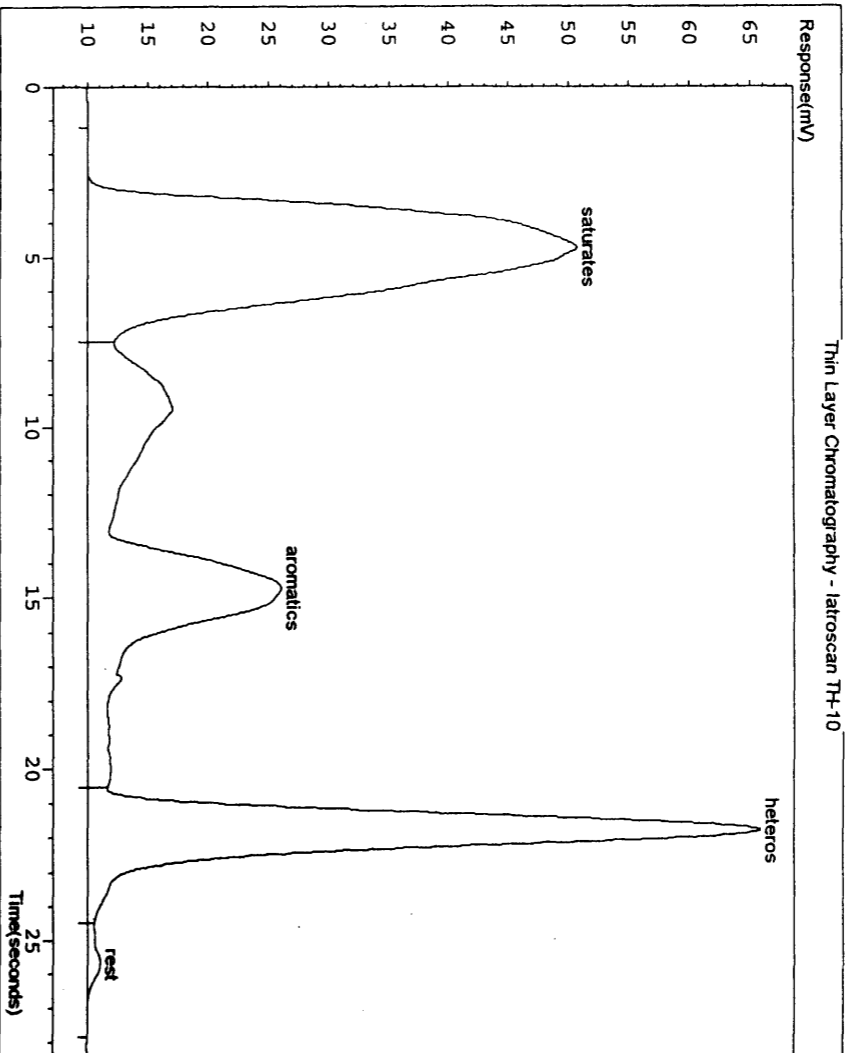
RKER.95.025

Confidential

Gross Composition of the extract from well 6407/08-02 (1749 m.), Norway

Printed at 01:02pm on 02 February 1995
 Project: defproj Instrument: channel4
 Sample: S 170895/2

Page 1
 Analysis: 260195-1
 Injection: 1

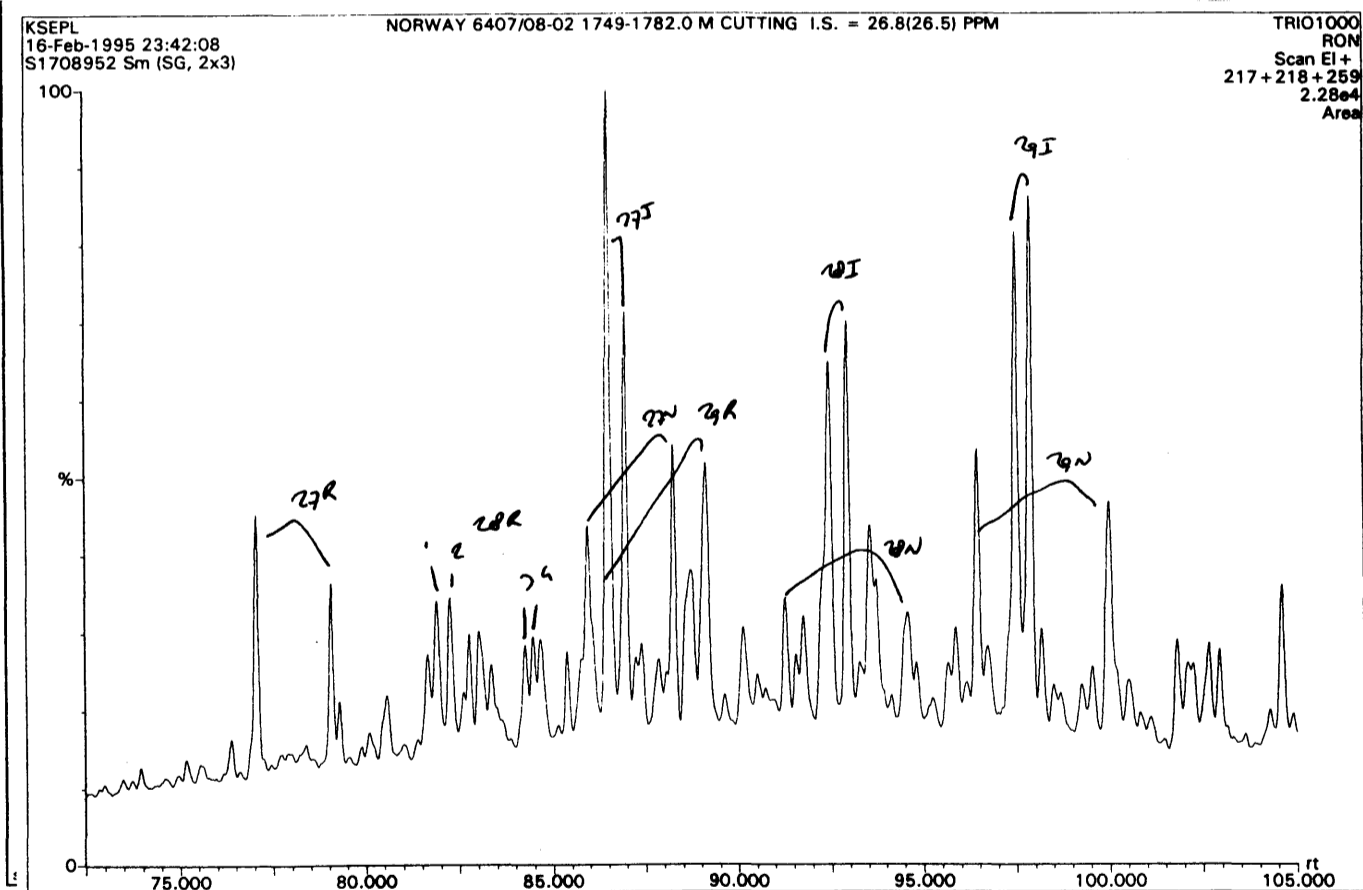
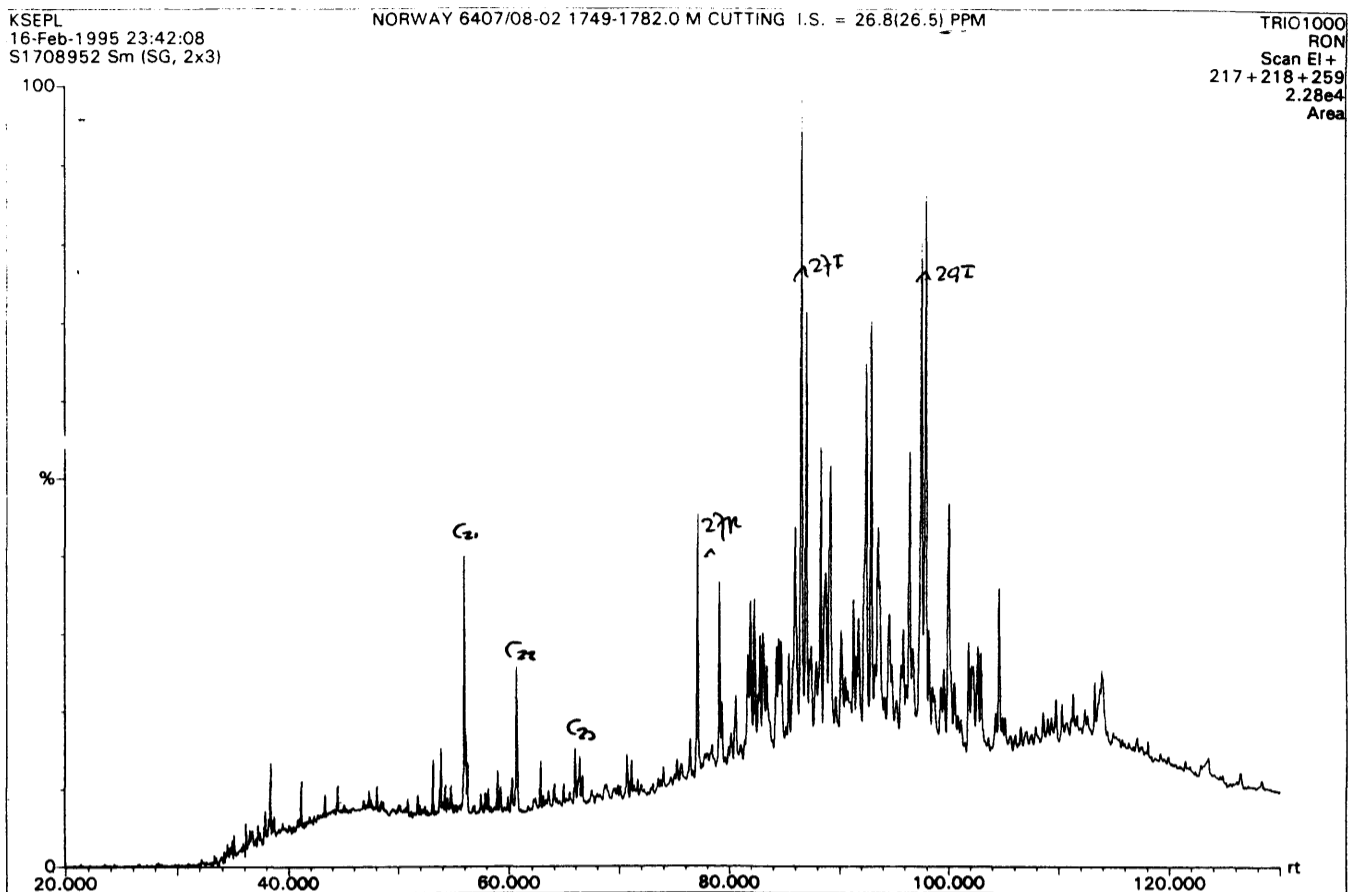


Analyst Name mb
 Analysis Name SHELL
 Comment c.l.c. Oil sample ORDER 260195

Peak information:

Peak No.	Peak Nam	Amount	N	Area
1	saturate	44.89	106.57	
2	aromatic	27.70	65.77	
3	heteros	26.77	63.54	
4	rest	0.64	1.51	

Sterane Fragmentograms of the extract from well 6407/08-02 (1749 m.), Norway

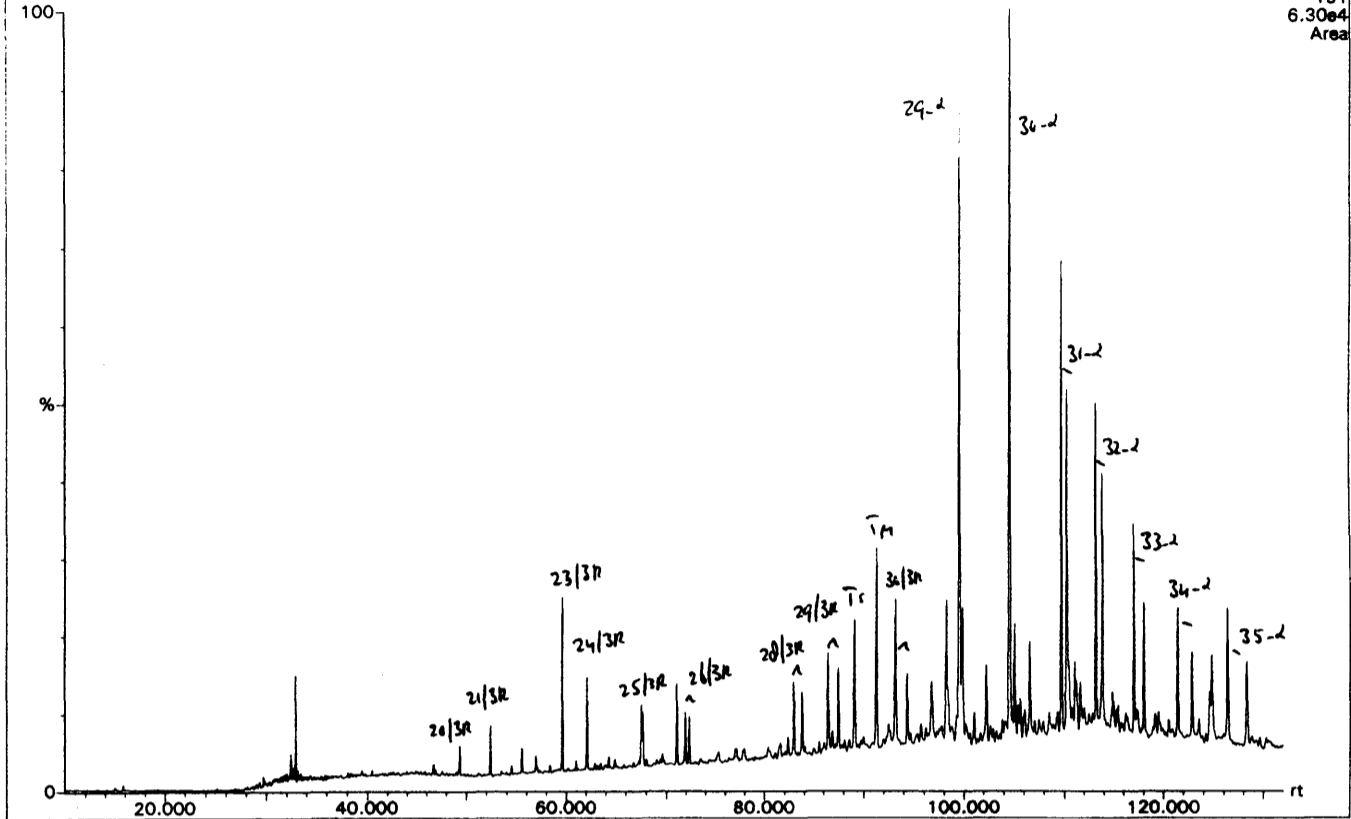


Triterpane Fragmentograms of the extract from well 6407/08-02 (1749 m.), Norway

KSEPL
16-Feb-1995 23:42:08
S1708952 Sm (SG, 2x3)

NORWAY 6407/08-02 1749-1782.0 M CUTTING I.S. = 26.8(26.5) PPM

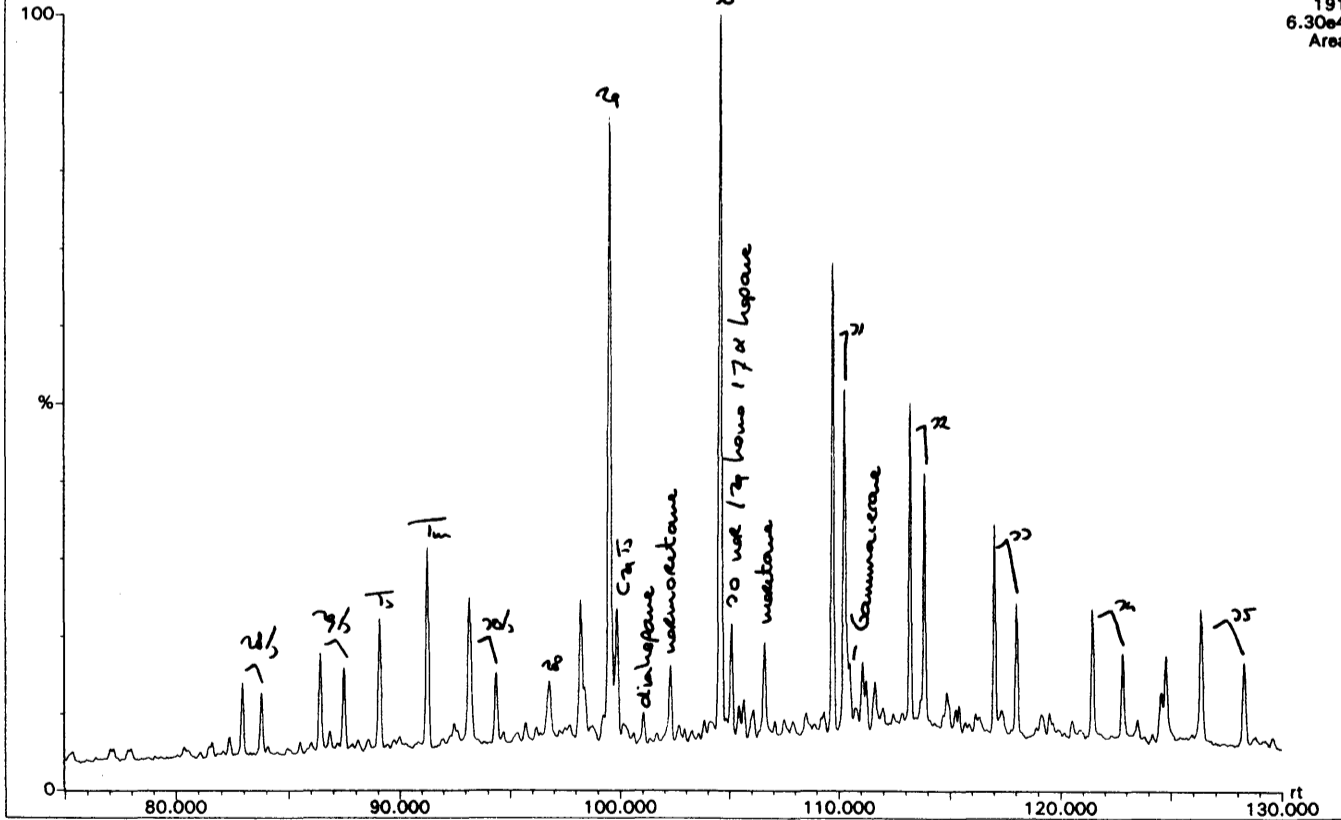
TRIO1000
RON
Scan EI+
191
6.30e4
Area



KSEPL
16-Feb-1995 23:42:08
S1708952 Sm (SG, 2x3)

NORWAY 6407/08-02 1749-1782.0 M CUTTING I.S. = 26.8(26.5) PPM

TRIO1000
RON
Scan EI+
191
6.30e4
Area



GCMS data of the aromatic fraction well 6407/08-02 (1753 m.), Norway

Report of sample: Norway 6407/08-02 1753-1761.5 m cutting
Acquired at : 17-Feb-1995

Standard used for calculations: PDP
Discrimination factor : 0.00

I) NAPHTHALENES

a) Concentrations (ppm)

2-MN
1-MN
2,6+2,7-DMN
1,6-DMN
1,5-DMN
1,3,5+1,4,6-TMN
2,3,6-TMN
1,2,5-TMN
C4-NAPH
THN
CAD
Total Naphthalenes

b) Parameters
2-MN/1-MN (MNR) 0.81
2,6+2,7-DMN/1,5-DMN (DNR-1) 0.81
2,3,6-TMN/1,3,5+1,4,6-TMN (TNR-1) 1.43
2,3,6-TMN/1,2,5-TMN (TNR-2) 2.47
2,3,6-TMN/THN n.d.
2,3,6-TMN/Cadelene n.d.

II) PHENANTHRENES

a) Concentrations (ppm)

P
3-MP
2-MP
9-MP
1-MP
Total Phenantrenes

b) Parameters
2-MP/1-MP 0.88
1.5*(2+3-MP/(P+1+9-MP)) (MPI-1) 0.58
3*(2-MP/(P+1+9-MP)) (MPI-2) 0.63
2+3-MP/1+9-MP 0.73
2+3-MP/1+9+2+3-MP 0.42

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)

DBT
4-MDBT
2+3-MDBT
1-MDBT
Total Dibenzothiophenes

b) Parameters

4 4-MDBT/2+3-MDBT 1.94
5 4-MDBT/1-MDBT 5.06
10 2+3-MDBT/1-MDBT 2.60
10 4-MDBT/DBT 2.08
12 2+3-MDBT/DBT 1.07
19 1-MDBT/DBT 0.41
27

IV) BIPHENYLS

a) Concentrations (ppm)
n.d. BP 37
n.d. 2-MBP 2
109 3-MBP 75
4-MBP 32
Total Biphenyls 146

b) Parameters
3-MBP/BP 2.04
3-MBP/4-MBP 2.31
3-MBP/2-MBP 35.78
n.d.

V) DIBENZOFURANS

a) Concentrations (ppm)

DBF 14
210 4-MDBF 11
79 2+3-MDBF 17
94 1-MDBF 10
132 Total Dibenzofurans 53
107

b) Parameters
4-MDBF/2+3-MDBF 0.62
4-MDBF/1-MDBF 1.03
2+3-MDBF/1-MDBF 1.66
4-MDBF/DBF 0.75
2+3-MDBF/DBF 1.20
1-MDBF/DBF 0.72
0.42

VI) OVERALL RATIOS

Biphenyls/NAPH* 2.12
Dibenzothiophenes/NAP 0.93
Dibenzofurans/NAPH* 0.77

MN = methylnaphthalene P = phenantrene
DMN = dimethylnaphthalene MP = methylphenanthrene
TMN = trimethylnaphthalene DBT = dibenzothiophene
THN = tetrahyronaphthalene MDBT= methyldibenzothiophene
DBF = methyldibenzofuran BP = biphenyl
MDBF= methyldibenzofuran MBP = methylbiphenyl
NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN

**GCMS data of the aromatic fraction
well 6407/08-02 (1753 m.), Norway**

VII) Misc. NAPHTHALENES**a) Concentrations (ppm)**

2,6-DMN	4	4,5-DMP	5
2,7-DMN	6	2,6+3,6-DMP	26
1,3+1,7-DMN	15	3,5-DMP	26
1,6-DMN	10	2,7-DMP	17
1,4-DMN	n.d.	3,9-DMP	137
2,3-DMN	3	1,6+2,5+2,9-DMP	62
1,5-DMN	12	1,7-DMP	55
1,2-DMN	5	1,9+4,9-DMP	51
1,4+2,3-DMN	3	1,5-DMP	n.d.
		1,8-DMP	14
		1,2-DMP	6
		9,10-DMP	n.d.
1,3,7-TMN	13	1,2,6-TMP	8
1,3,6-TMN	18	1,2,5-TMP	11
1,3,5+1,4,6-TMN	19	1,2,9-TMP	4
2,3,6-TMN	27	1,2,7-TMP	n.d.
1,2,7-TMN	6	1,2,8-TMP	8
1,6,7-TMN	24		
1,2,6-TMN	11		
1,2,4-TMN	2		
1,2,5-TMN	11		
1,3,5,7-TeMN	4		
1,3,6,7-TeMN	23		
1,2,4,7-TeMN	13		
1,2,5,7-TeMN	7		
2,3,6,7-TeMN	8		
1,2,6,7-TeMN	4		
1,2,5,6-TeMN (C4-NAPH)	10		

b) Parameters

1,2,5-TMN/1,3,6-TMN 0.61

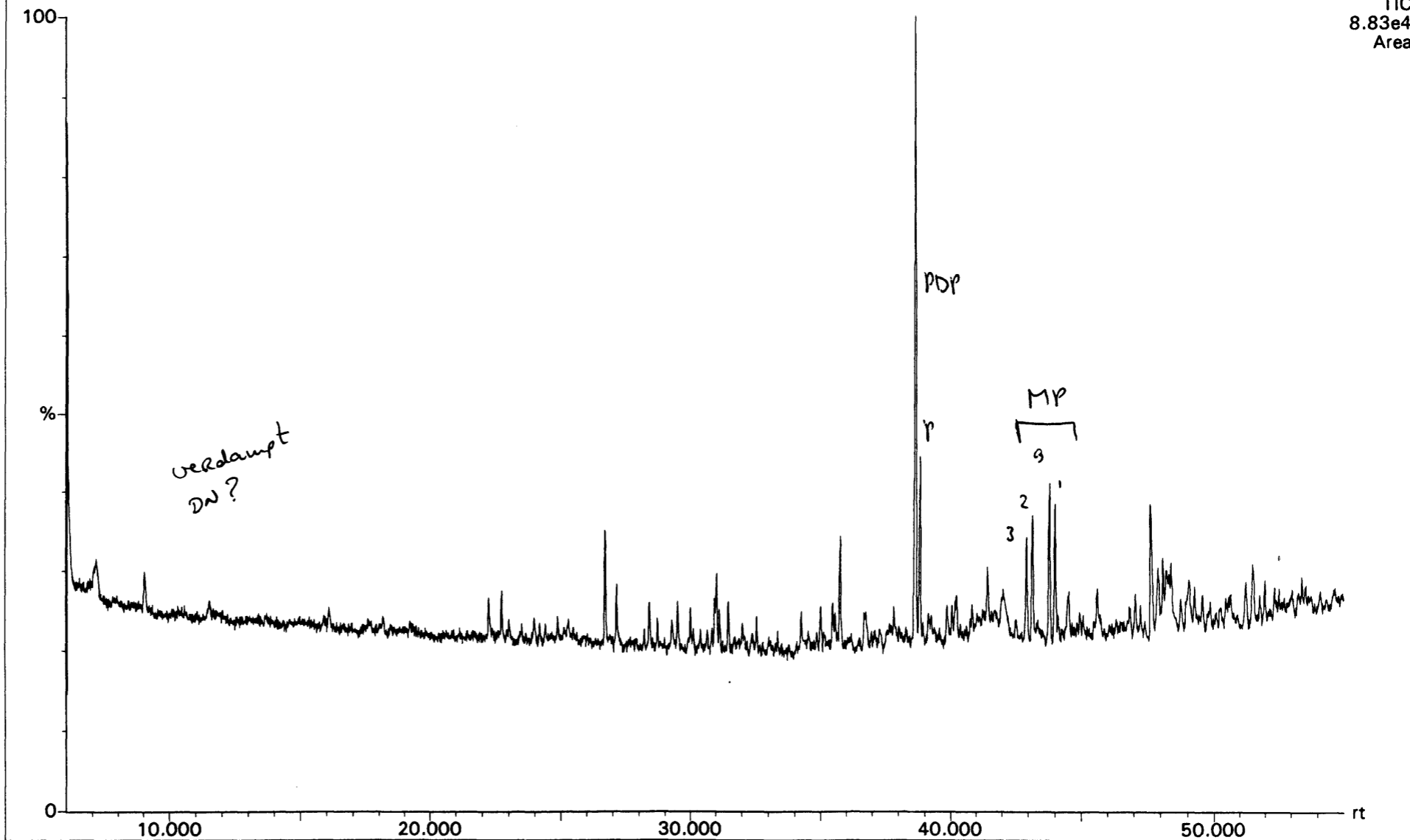
1,2,7-TMN/1,3,7-TMN 0.47

The assignment of some of these peaks is tentative

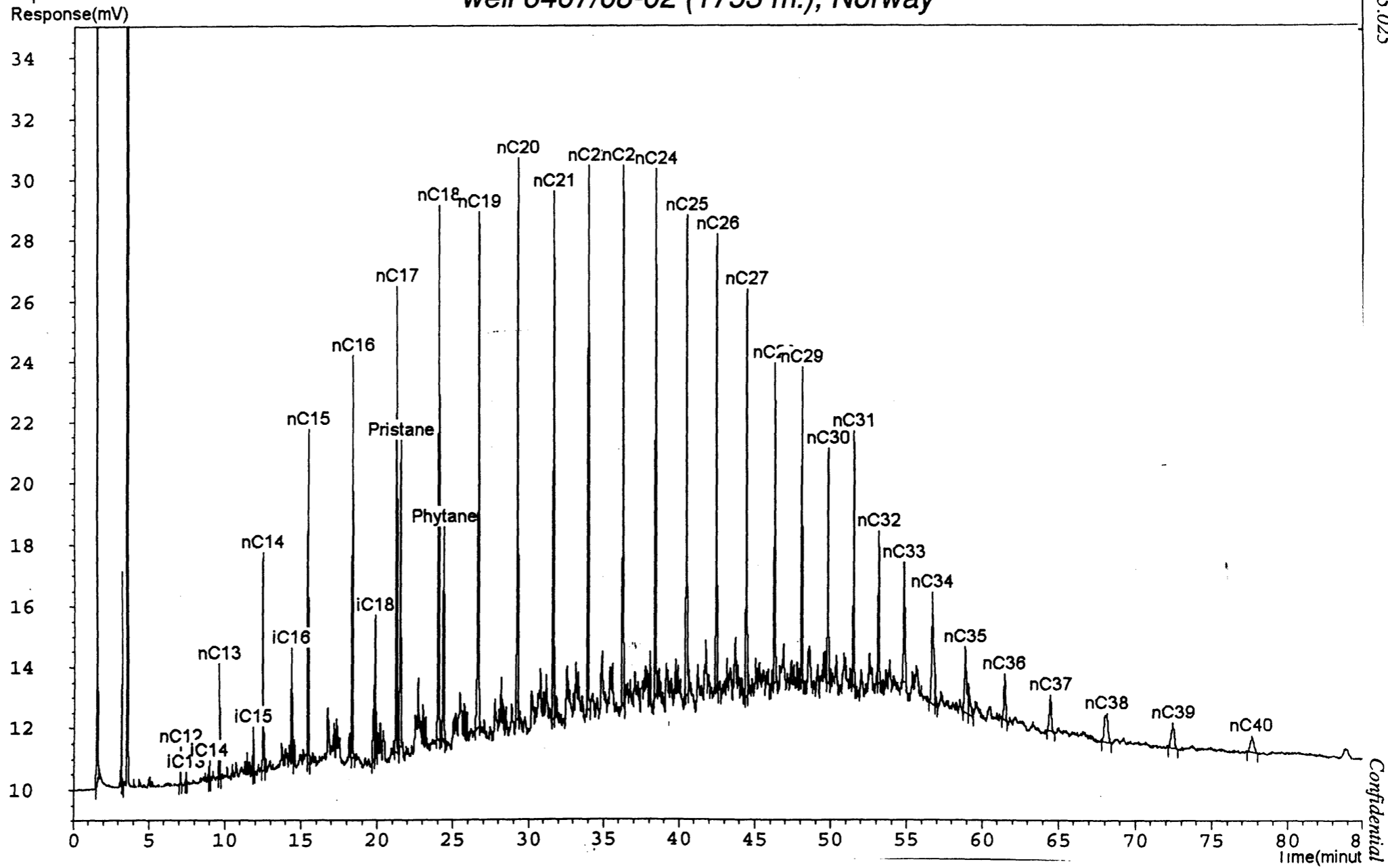
K.S.E.P.L.
17-Feb-1995 21:15:36
1708962

Norway 6407/08-02 1753-1761.5 m cutting

MD-800
RON
Scan EI+
TIC
8.83e4
Area



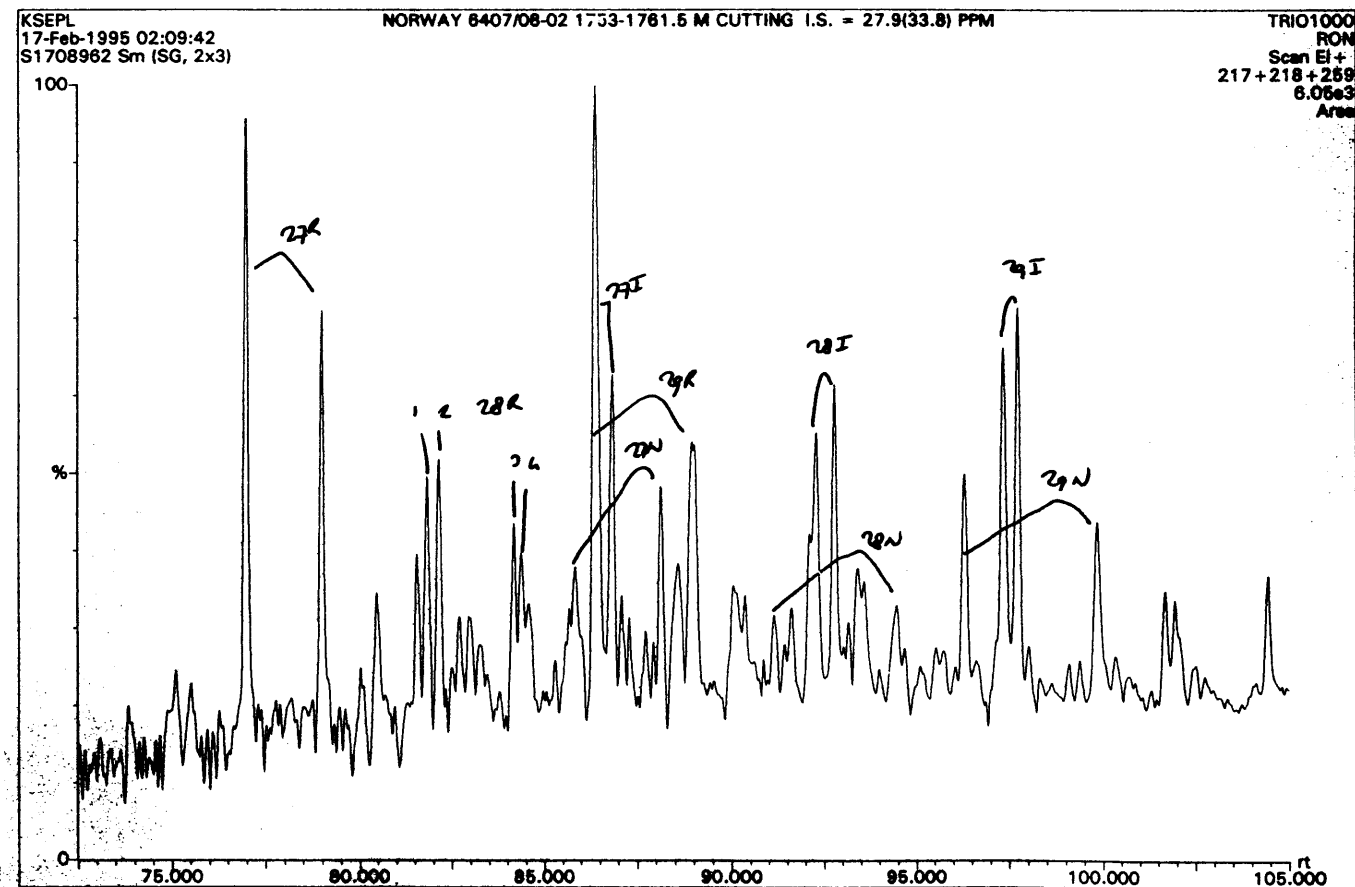
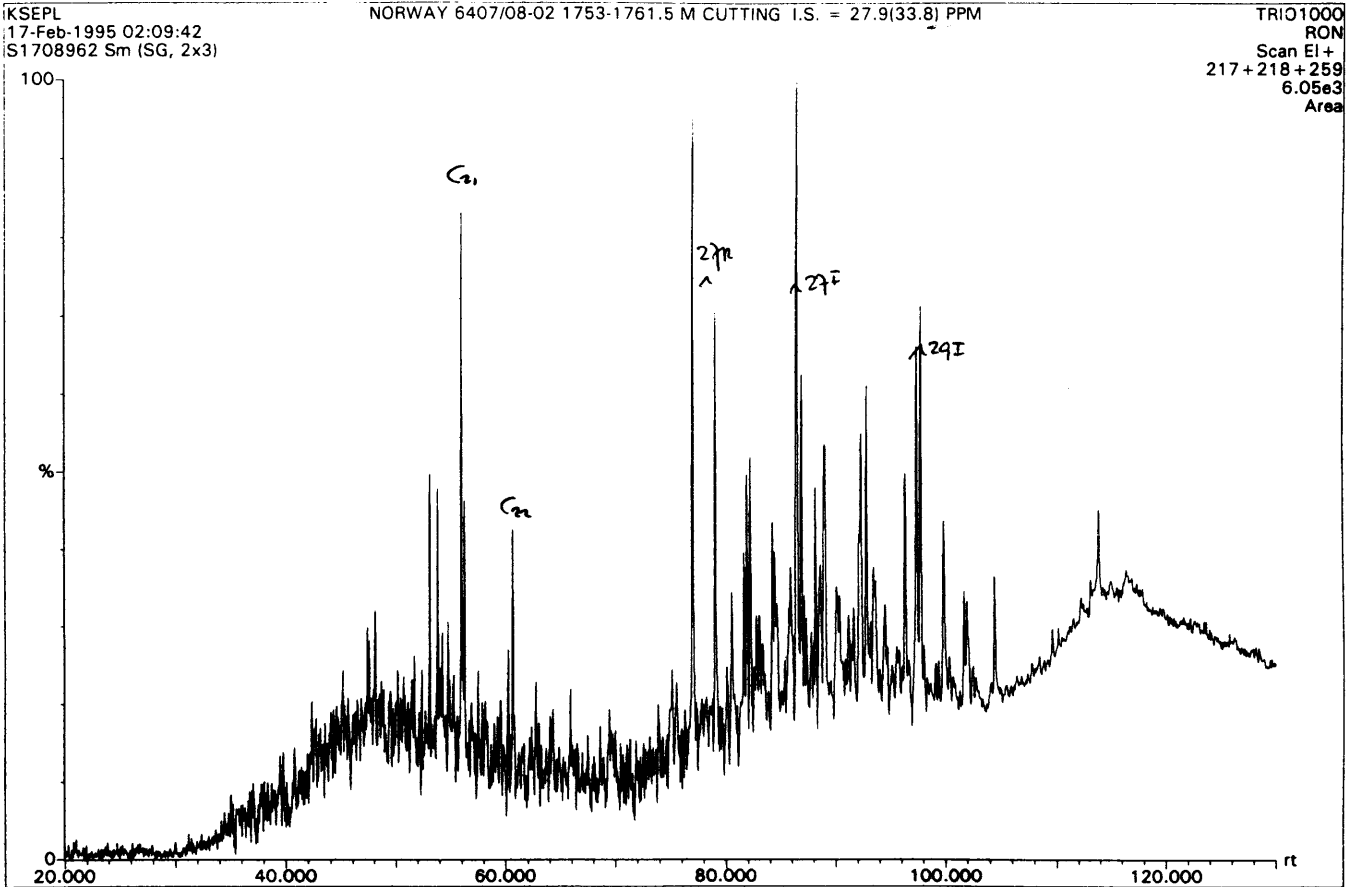
Gas chromatogram of the saturated hydrocarbons of the extract from well 6407/08-02 (1753 m.), Norway



RKER.95.025

Confidential

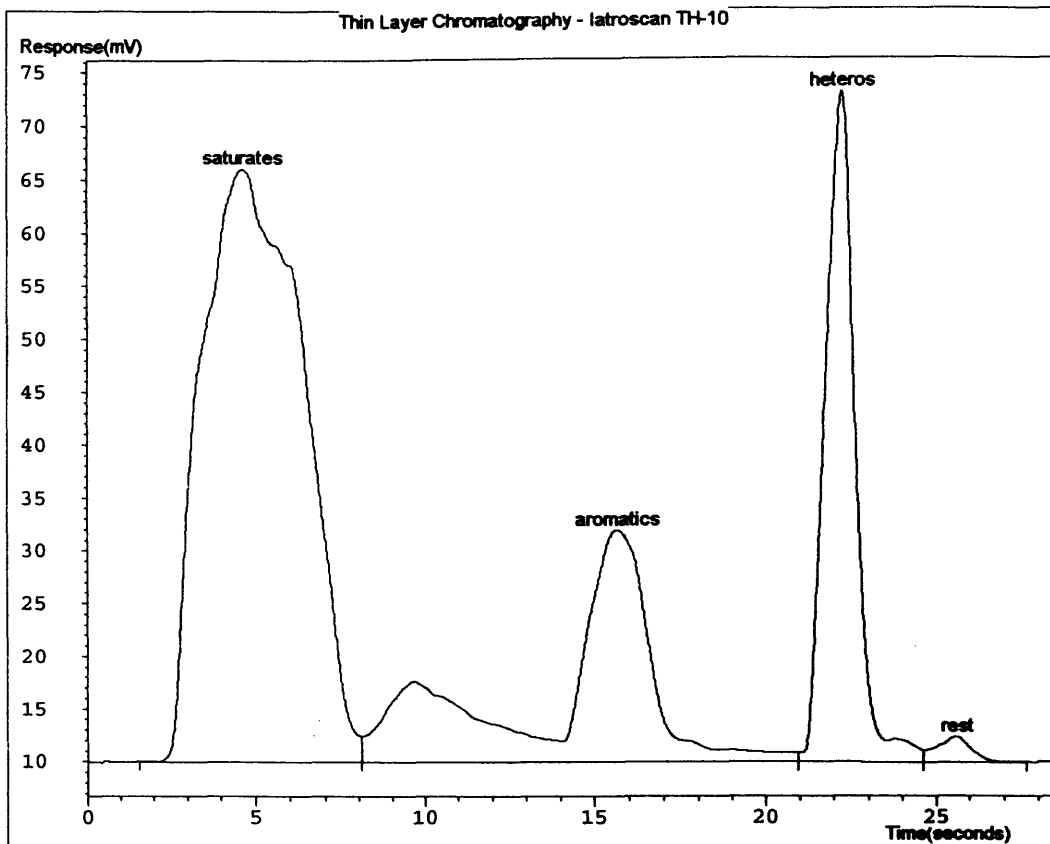
Sterane Fragmentograms of the extract from well 6407/08-02 (1753 m.), Norway



Gross Composition of the extract from
well 6407/08-02 (1753 m.), Norway

Printed at 01:05pm on 02 February 1995
Project: defproj Instrument: channel4
Sample: S 170896/2

Page 1
Analysis: 260195-1
Injection: 1

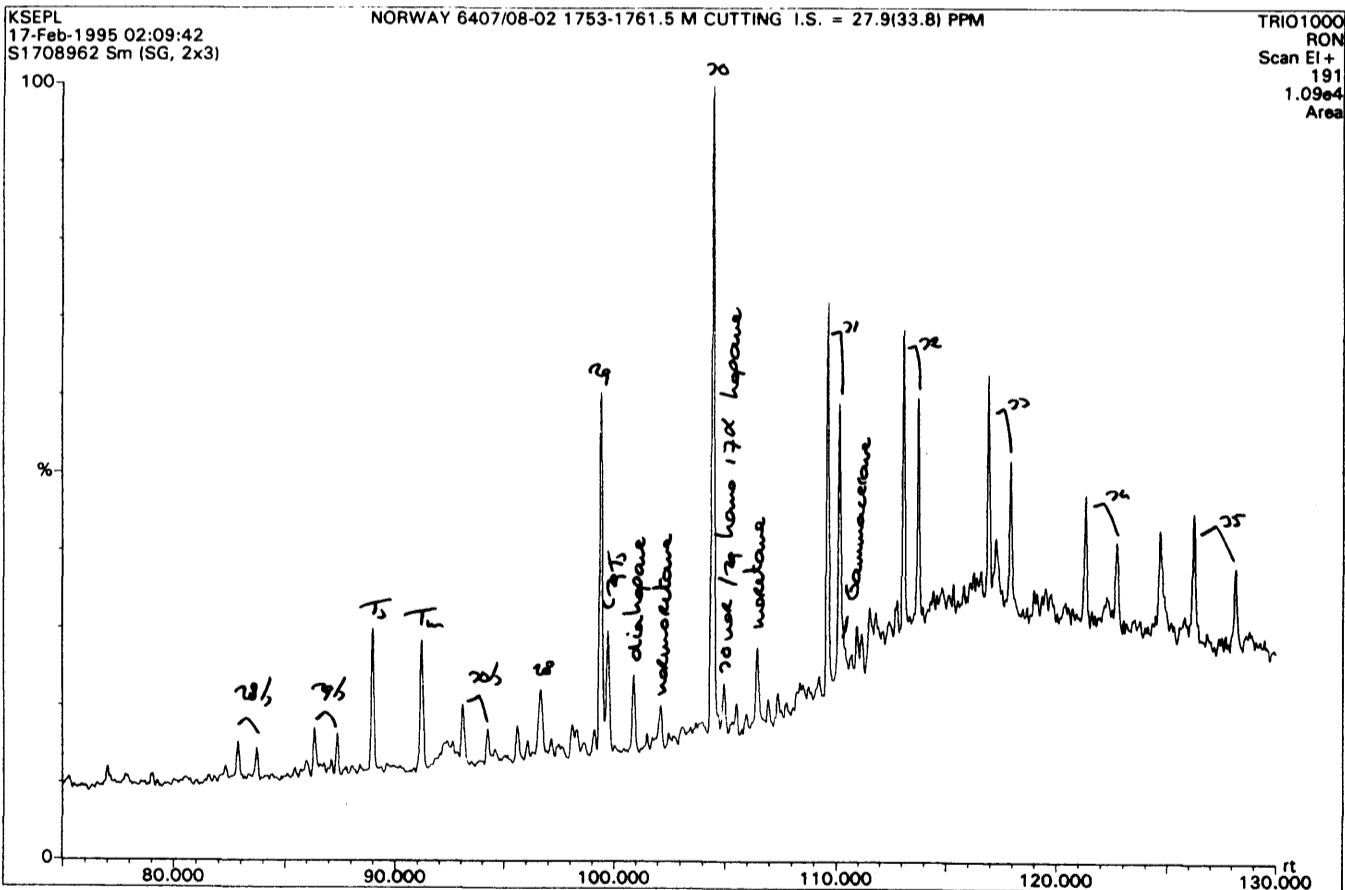
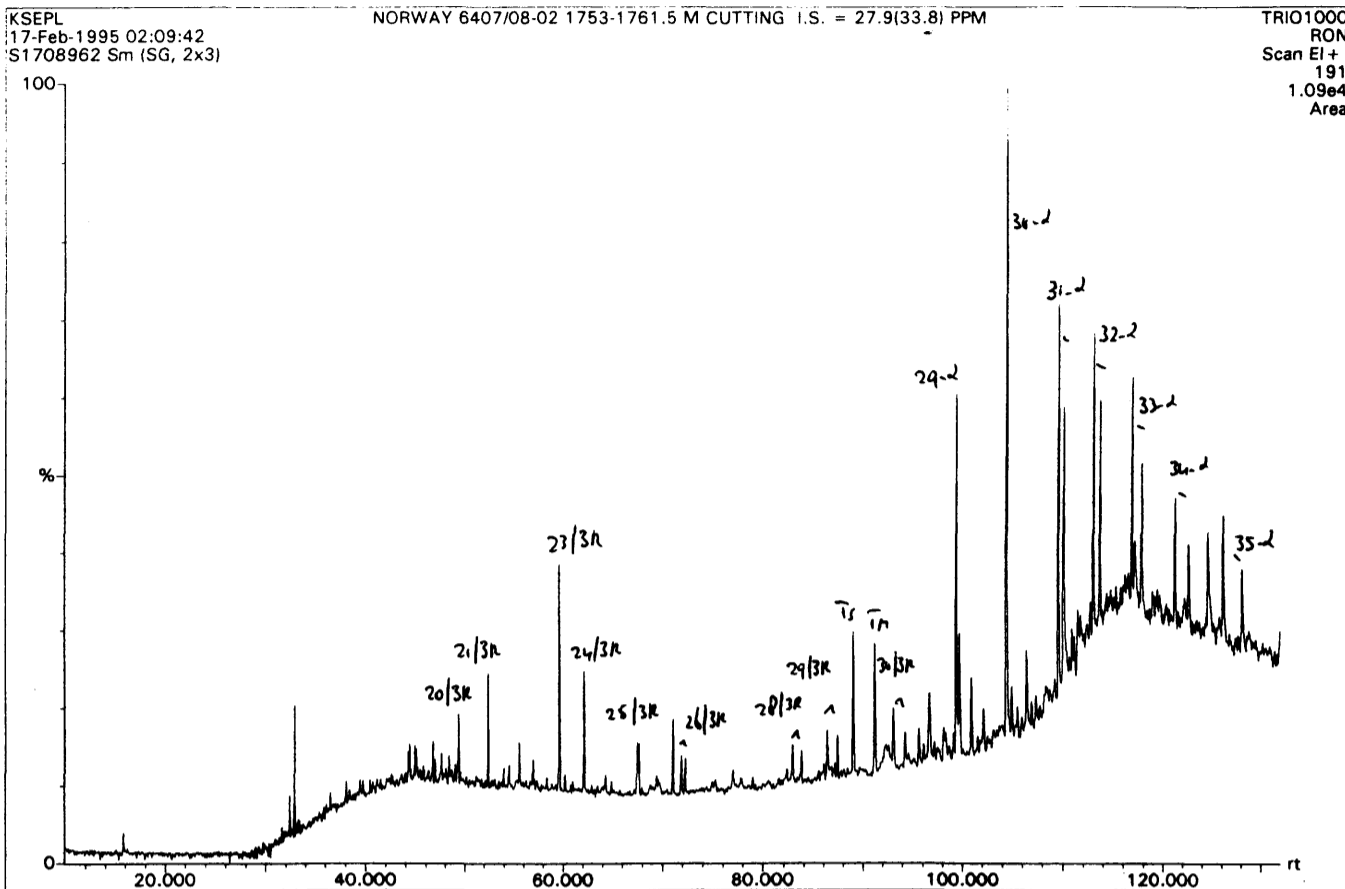


Analyst Name mb
Analysis Name SHELL
Comment t.l.c. Oil sample ORDER 260195

Peak information:

Peak No.	Peak Nam	Amount N	Area
1	saturate	58.06	191.29
2	aromatic	21.69	71.46
3	heteros	19.39	63.89
4	rest	0.86	2.84

Triterpane Fragmentograms of the extract from well 6407/08-02 (1753 m.), Norway



CONTENTS

	page
1. Introduction	1
2. Conclusions	1
3. Geochemical parameters	
Summary of the analytical data	2
Bar diagram of normal alkanes & isoprenoids	3
The light fraction	4
GCMS sterane typing	5
GCMS triterpane typing	6
4. Analytical data	
Gas chromatogram of the whole crude	
GCMS data of the aromatic fraction	
Gas chromatogram of the saturated hydrocarbons	
Gross composition	
Gas chromatogram of the light fraction	
Sterane fragmentogram	
Triterpane fragmentogram	
Enlarged part of whole oil gas chromatogram	
Data of enlarged part of gas chromatogram	

Initial distribution:

Shell Risavika - 3 copies

SIPM-EPA/2 - 3 copies

**Summary of the Geochemical Data of the oil sample from
well 6407/08-02 (1738.5 m.), Norway**

Gravity and Gross Composition

API gravity (degrees) :	46.6
Specific Gravity (g/ml) :	0.795
Viscosity (centipoise) :	no data
Gross Composition (W%)	
Weight lost on topping :	52.4
Saturates :	57
Aromatics :	39
Heterocompounds :	4
Rest (High molecular) :	0
Gasoline fraction (%) :	21.5
Sulphur (%) :	0.1
Vanadium (ppm) :	0.0
Nickel (ppm) :	0.0

Saturates Distributions
(Gaschromatography)

Pristane / Phytane :	1.9
Pristane / n-C17 :	0.7
Phytane / n-C18 :	0.4
ACI :	17
Corr. Coeff. :	-0.9932

C-7 Distributions
(Gaschromatography)

C-7 Alkanes (%)	
Normal C-7 :	52
Mono Branched :	38
Poly Branched :	10
C-7 Alkanes / Cyclo Alkanes (%)	
Normal C-7 :	23
Cyclo Alkanes :	55
Branched Alkanes :	22
C-7 Alk. / Cyclo Alk. / Aromatics (%)	
Alkanes :	38
Cyclo Alkanes :	48
Aromatics :	14

Carbon Isotope Ratios
(Mass Spectrometry)

Total Oil (topped) :	-29.3
Saturates :	-29.9
Aromatics :	-28.5

Distribution of Ring Compounds
(Field Ionisation Mass Spectrometry)
C-15 Ring Compounds (%)

1 ring :	no data
2 ring :	
3 ring :	

C-30 Ring Compounds (%)

3 ring :	no data
4 ring :	
5 ring :	

C-29 VR/E :

no data

Sterane and Triterpane Distributions
(Gaschromatography / Mass Spectrometry)
Steranes/Triterpanes (%)

Iso Steranes :	29
Rearranged Steranes :	58
Triterpanes :	13

Steranes (%)

Iso Steranes :	36
Rearranged Steranes :	49
Normal Steranes :	15

Triterpanes (%)

C-30 Hopanes :	100
Oleanane ($\alpha + \beta$) :	0
W + T :	0

Steranes Carbon No. Dist. (%)

C-27 :	30
C-28 :	33
C-29 :	37

C-29 Sterane Ratios

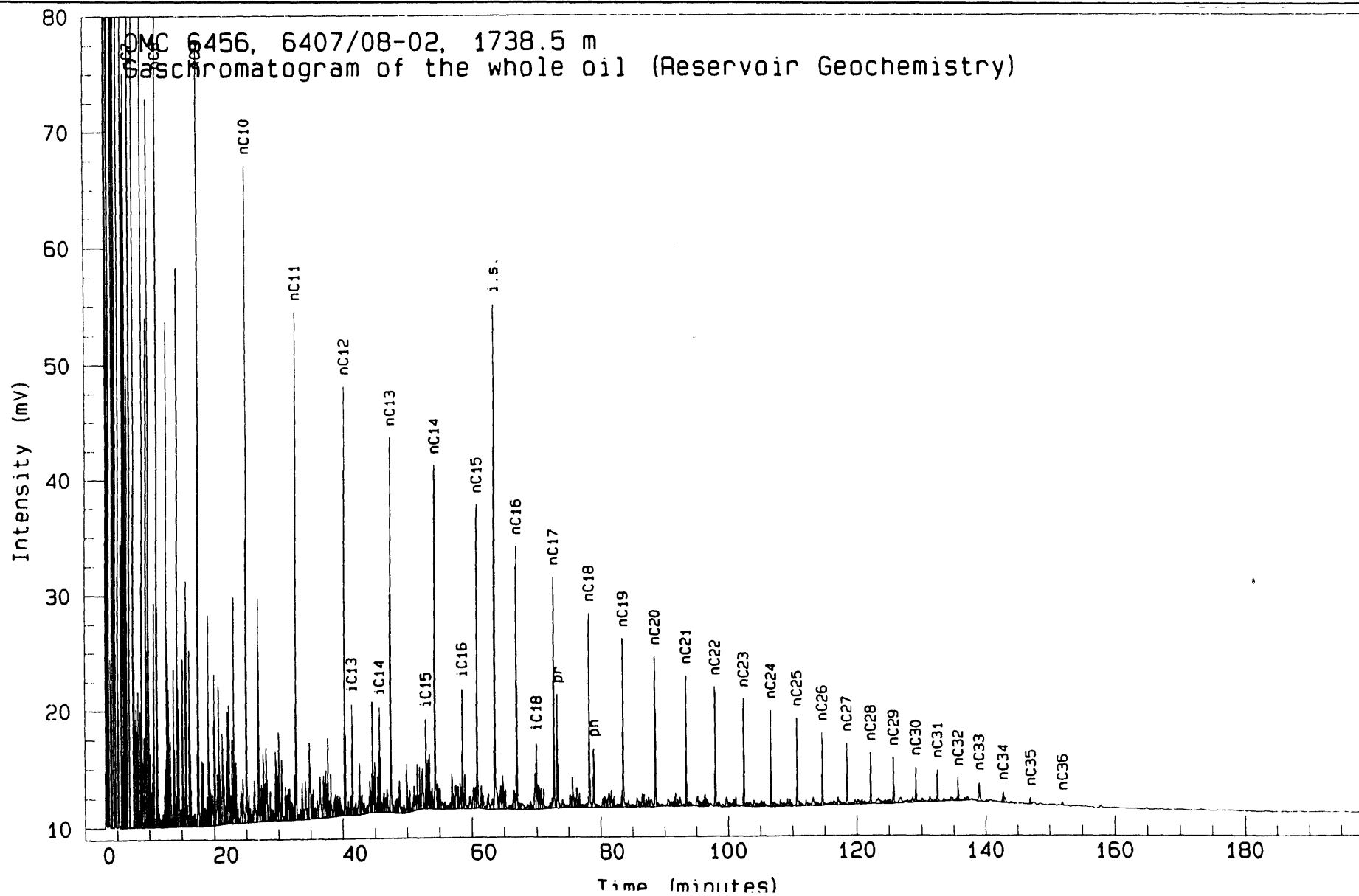
20S / 20R + 20S :	0.52
Iso / Iso + Normal :	0.64

Triterpane Ratios

TS / TM :	1.29
3R / 3R + 5R :	0.14

1065015

Gas chromatogram of the whole oil sample from well 6407/08-02 (1738.5 m.), Norway



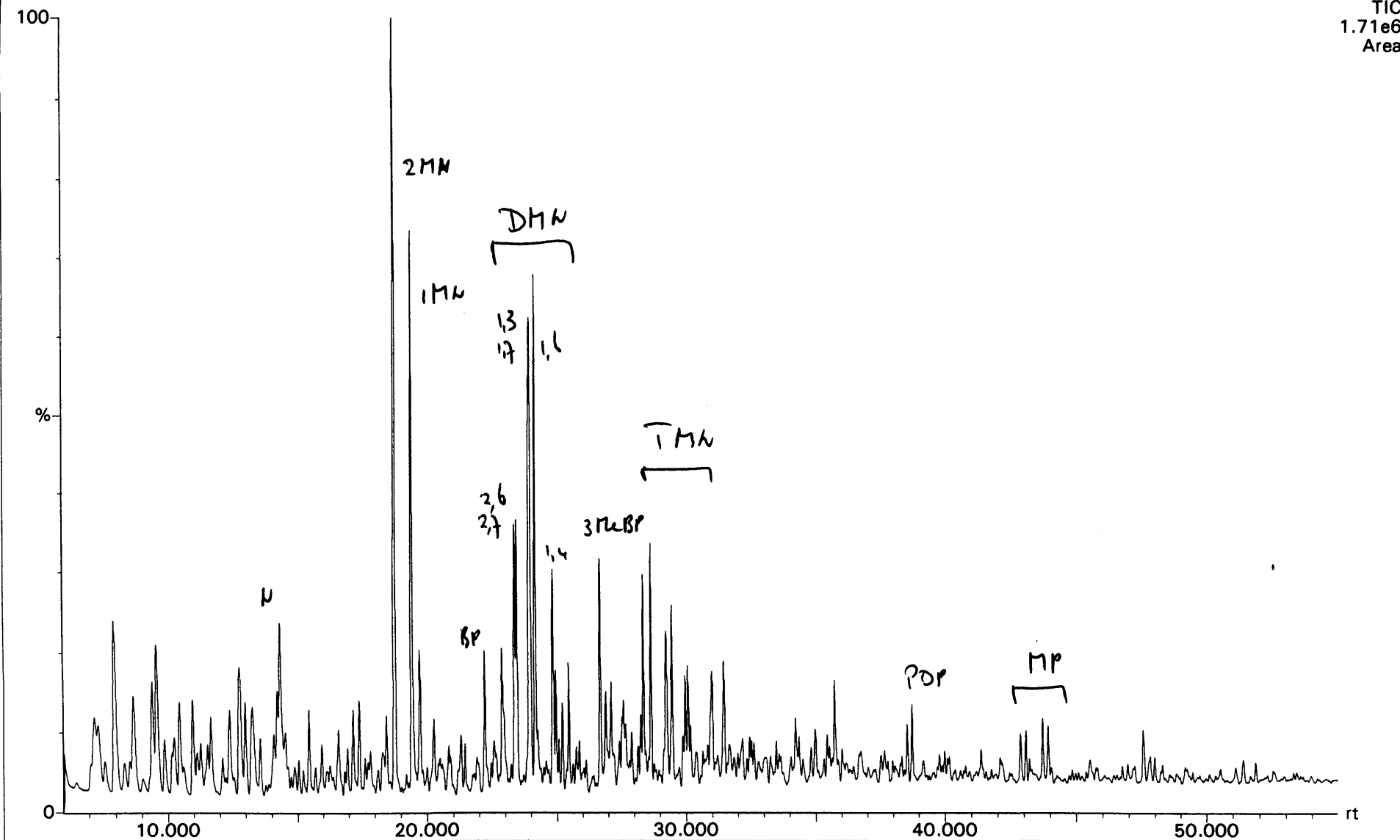
RKER.95.006

Confidential

K.S.E.P.L.
16-Dec-1994 04:20:03
1705981

Norway 6407/08-02 1738.5 m omc 6456

MD-800
RON
Scan EI+
TIC
1.71e6
Area



GCMS data of the aromatic fraction well 6407/08-02 (1738.5 m.), Norway

Report of sample: Norway 7407/08-02 1738.5 m omc 6456
Acquired at : 16-Dec-1994

Standard used for calculations: PDP
Discrimination factor : 1.26

I) NAPHTHALENES

a) Concentrations (ppm)		b) Parameters	
2-MN		2098	4-MDBT/2+3-MDBT 4.78
1-MN		1452	4-MDBT/1-MDBT 5.09
2,6+2,7-DMN		1022	2+3-MDBT/1-MDBT 1.07
1,6-DMN		942	4-MDBT/DBT 1.50
1,5-DMN		364	2+3-MDBT/DBT 0.31
1,3,5+1,4,6-TMN		359	1-MDBT/DBT 0.29
2,3,6-TMN		258	
1,2,5-TMN		101	IV) BIPHENYLS
C4-NAPH		29	a) Concentrations (ppm)
THN		6	BP 396
CAD		9	2-MBP 37
Total Naphthalenes		6642	3-MBP 409
			4-MBP 150
			Total Biphenyls 992
b) Parameters			
2-MN/1-MN (MNR)	1.44	2.81	b) Parameters
2,6+2,7-DMN/1,5-DMN (DNR-1)		0.72	3-MBP/BP 1.03
2,3,6-TMN/1,3,5+1,4,6-TMN (TNR-1)		2.55	3-MBP/4-MBP 2.73
2,3,6-TMN/1,2,5-TMN (TNR-2)		41.41	3-MBP/2-MBP 11.02
2,3,6-TMN/THN	28.58		
2,3,6-TMN/Cadelene			

II) PHENANTHRENES

a) Concentrations (ppm)		V) DIBENZOFURANS	
P			a) Concentrations (ppm)
3-MP			DBF 41
2-MP		244	4-MDBF 43
9-MP		96	2+3-MDBF 49
1-MP		105	1-MDBF 28
Total Phenantrenes		145	Total Dibenzofurans 162
		114	
b) Parameters		705	b) Parameters
2-MP/1-MP			4-MDBF/2+3-MDBF 0.88
1.5*(2+3-MP/(P+1+9-MP)) (MPI-1)	0.92		4-MDBF/1-MDBF 1.50
3*(2-MP/(P+1+9-MP)) (MPI-2)	0.60		2+3-MDBF/1-MDBF 1.71
2+3-MP/1+9-MP	0.62		4-MDBF/DBF 1.03
2+3-MP/1+9+2+3-MP	0.62		2+3-MDBF/DBF 1.18
	0.77		1-MDBF/DBF 0.69
	0.44		

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)		VI) OVERALL RATIOS	
DBT			Biphenyls/NAPH* 0.50
4-MDBT			Dibenzothiophenes/NAP 0.06
2+3-MDBT		40	Dibenzofurans/NAPH* 0.08
1-MDBT		60	
Total Dibenzothiophenes		12	
		12	
		123	

MN = methylnaphthalene	P = phenantrene
DMN = dimethylnaphthalene	MP = methylphenanthrene
TMN = trimethylnaphthalene	DBT = dibenzothiophene
THN = tetrahyronaphthalene	MDBT= methyl dibenzothiophene
DBF = methyldibenzofuran	BP = biphenyl
MDBF= methyldibenzofuran	MBP = methylbiphenyl
NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN	

**GCMS data of the aromatic fraction
well 6407/08-02 (1738.5 m.), Norway**

(VII) Misc. NAPHTHALENES**a) Concentrations (ppm)**

2,6-DMN	494	4,5-DMP	4
2,7-DMN	527	2,6+3,6-DMP	19
1,3+1,7-DMN	1266	3,5-DMP	28
1,6-DMN	942	2,7-DMP	17
1,4-DMN	n.d.	3,9-DMP	144
2,3-DMN	203	1,6+2,5+2,9-DMP	67
1,5-DMN	364	1,7-DMP	55
1,2-DMN	1.0	1,9+4,9-DMP	52
1,4+2,3-DMN	203	1,5-DMP	n.d.
		1,8-DMP	13
		1,2-DMP	7
		9,10-DMP	n.d.
1,3,7-TMN	341	1,2,6-TMP	7
1,3,6-TMN	416	1,2,5-TMP	10
1,3,5+1,4,6-TMN	359	1,2,9-TMP	4
2,3,6-TMN	258	1,2,7-TMP	n.d.
1,2,7-TMN	59	1,2,8-TMP	7
1,6,7-TMN	188		
1,2,6-TMN	113		
1,2,4-TMN	22		
1,2,5-TMN	101		
1,3,5,7-TeMN	33		
1,3,6,7-TeMN	94		
1,2,4,7-TeMN	54		
1,2,5,7-TeMN	31		
2,3,6,7-TeMN	23		
1,2,6,7-TeMN	11		
1,2,5,6-TeMN (C4-NAPH)	29		

b) Parameters

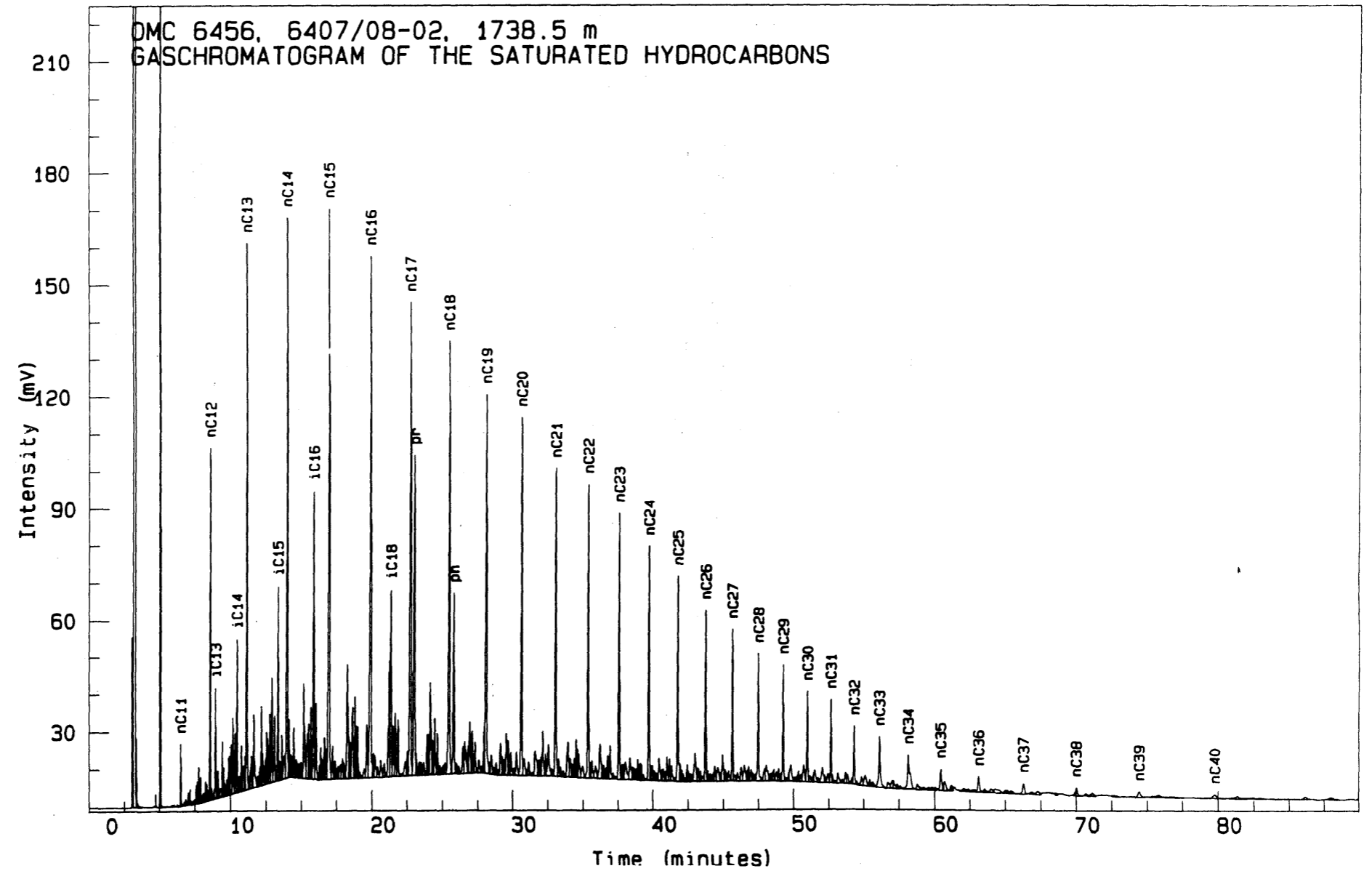
1,2,5-TMN/1,3,6-TMN 0.24

1,2,7-TMN/1,3,7-TMN 0.17

The assignment of some of these peaks is tentative

Gas chromatogram of the saturated hydrocarbons of the oil sample from well 6407/08-02 (1738.5 m.), Norway

108650113

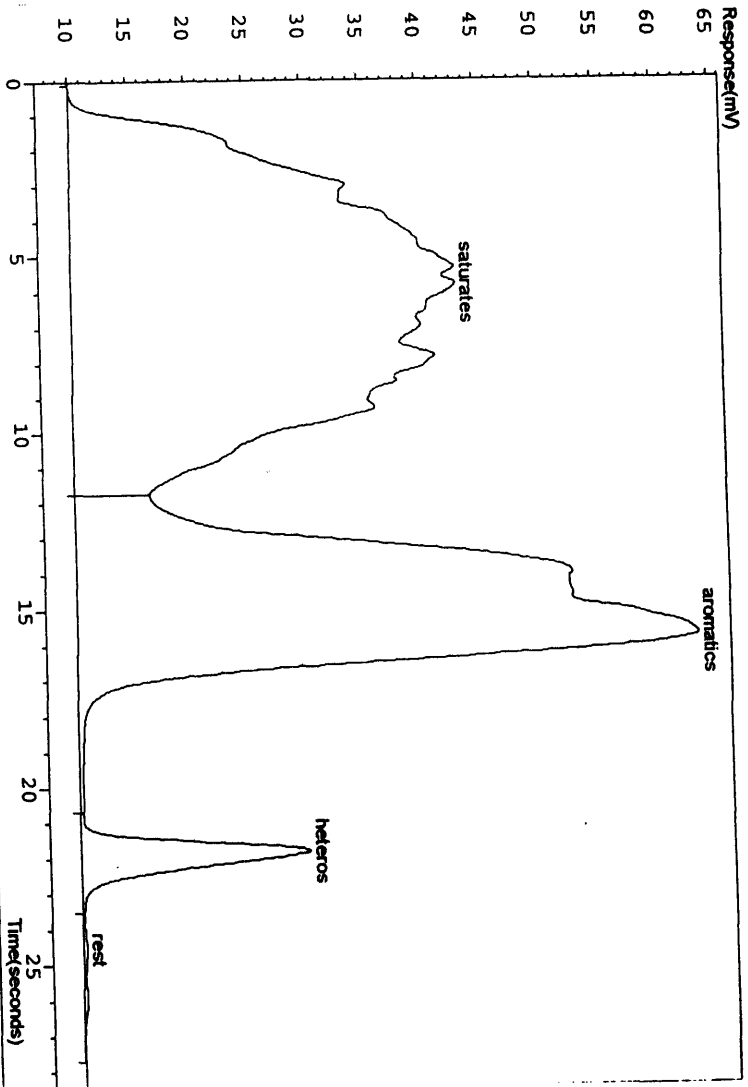


Gross Composition of the oil sample from well 6407/08-02 (1738.5 m.), Norway

Printed at 08:26am on 15 December 1994
Project: defproj Instrument: channel14
Sample: S 170598/1

Page 1
Analysis: 0642-b
Injection: 1

Thin Layer Chromatography - Iatroscan TH-10



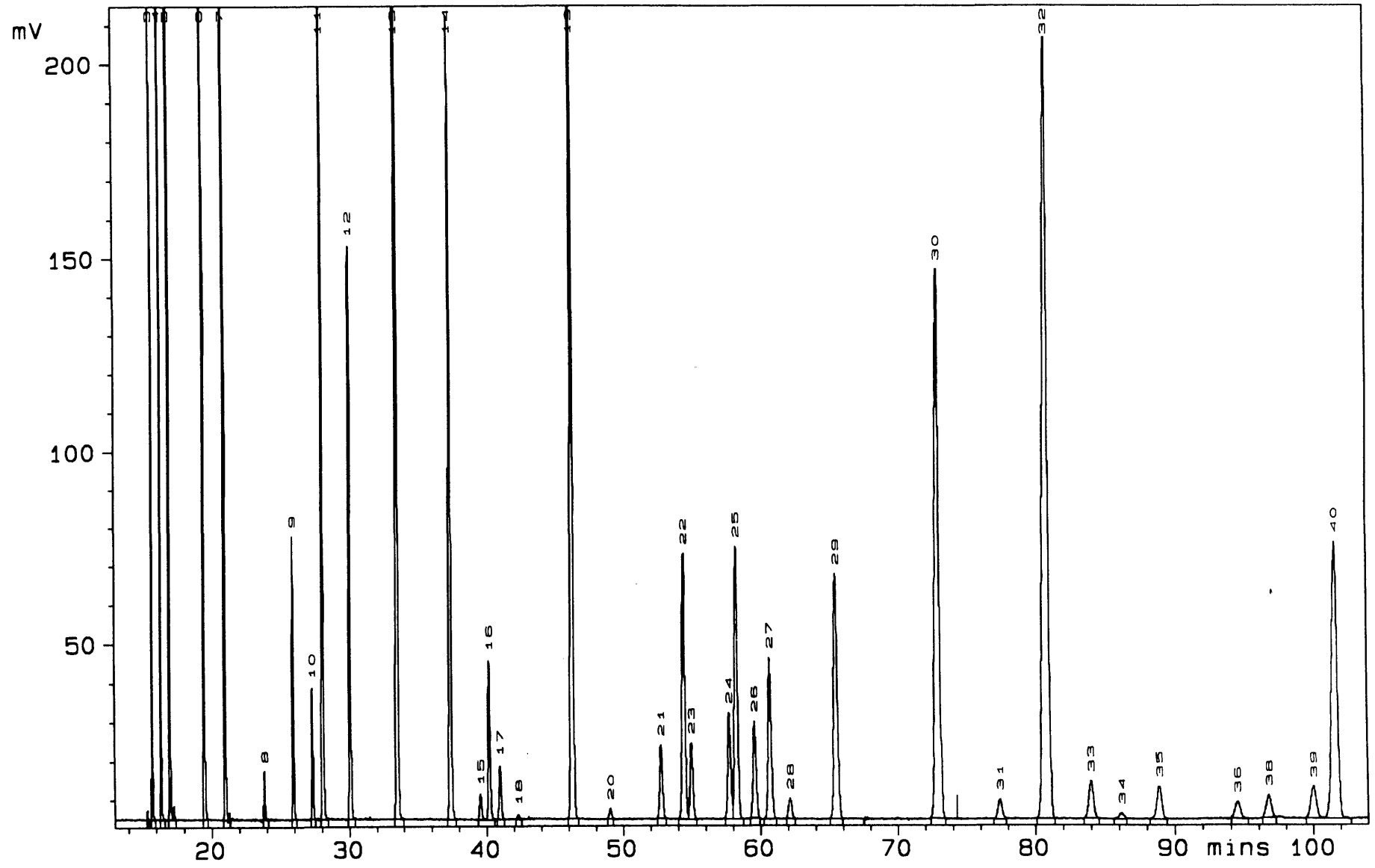
Analyst Name mb
Analysis Name SHELL
Comment t.l.c. Oil sample

Peak information:

Peak No.	Peak Nam	Amount N	Area
1	saturate	56.78	247.86
2	aromatic	39.36	171.82
3	heteros	3.66	15.98
4	rest	0.20	0.88

Gas chromatogram of the light fraction (< 120 C.) of the oil sample from well 6407/08-02 (1738.5 m.), Norway

10865015



Acquired on 17-Dec-94 at 23: 59: 59

Reported on 19-Dec-94 at 09: 17: 34

**Gas chromatographic hydrocarbons analysis (< 120 C.)
well 6407/08-02 (1738.5 m.), Norway**

**GAS CHROMATOGRAPHICS ANALYSIS OF THE FRACTION BOILING BELOW
120 DEGREES CENTIGRADE**

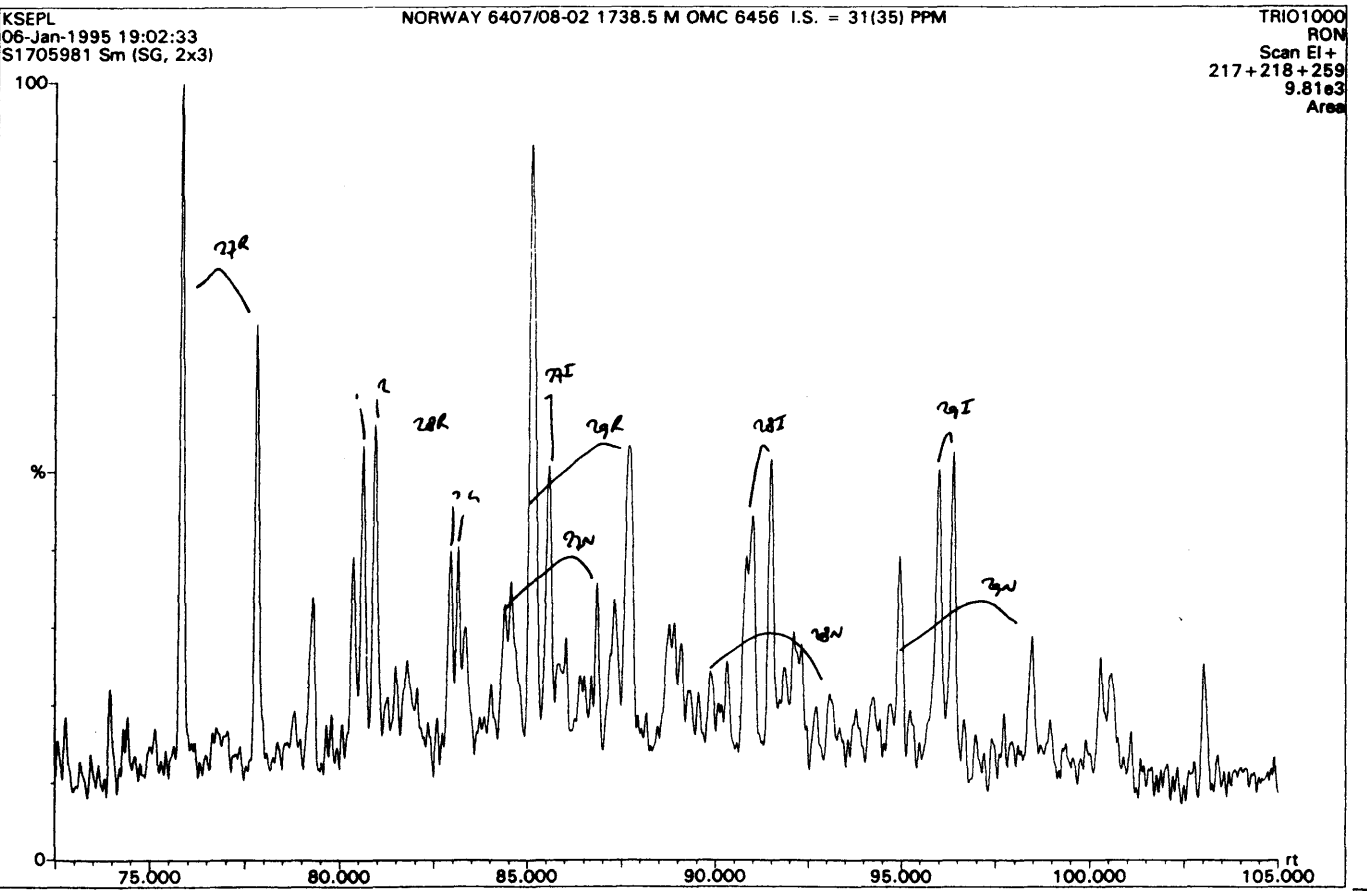
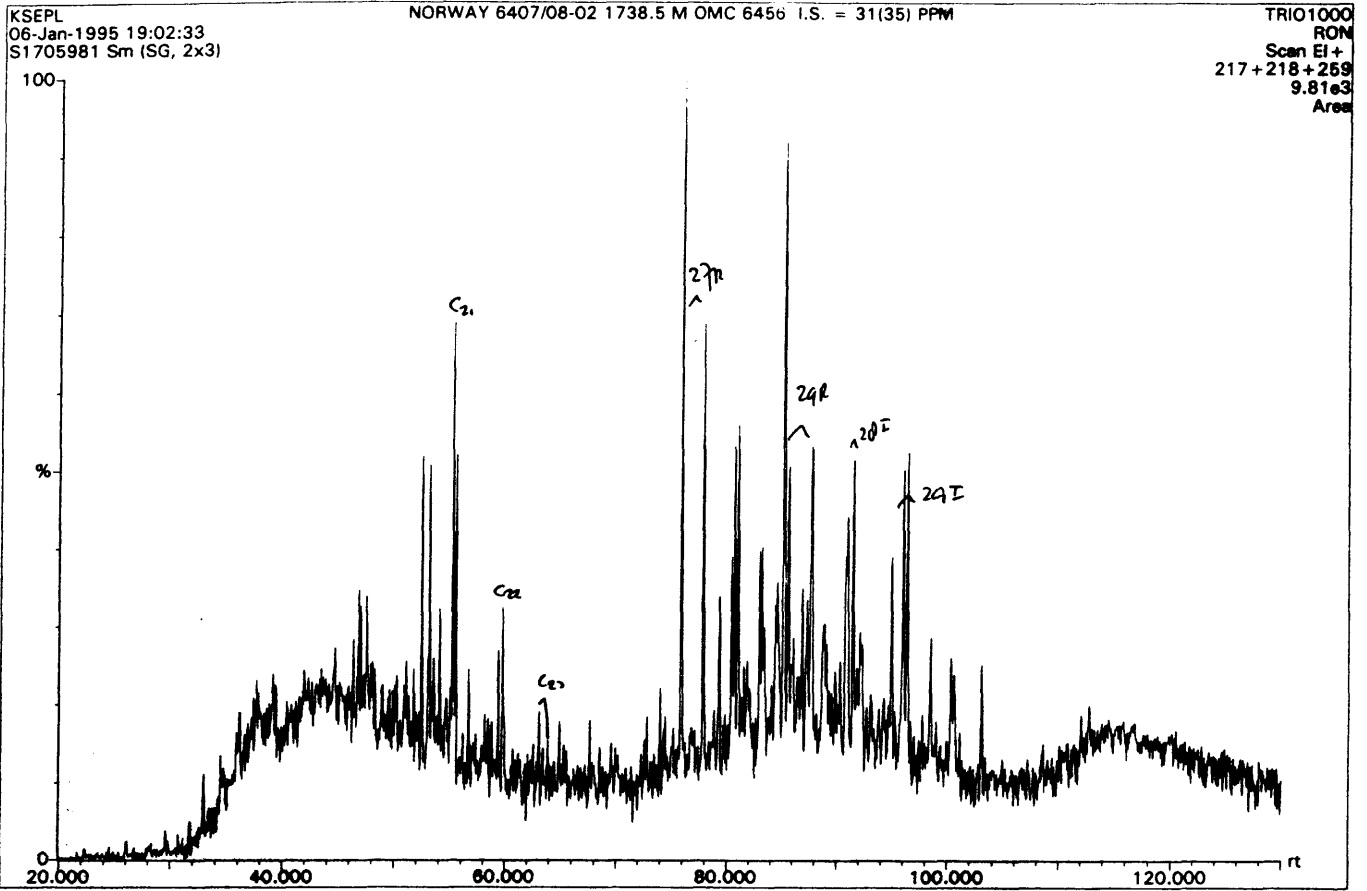
Sample: s170598/1

COMPONENT No.	Name	RET. TIME (min)	HEIGHT (uV)	AREA (uVs)
1	methane	0.00	0	0
2	ethane	0.00	0	0
3	propane	15.73	243100	745721
4	i-butane	16.37	231293	727385
5	n-butane	16.97	920190	3019368
6	i-pentane	19.44	587214	2344707
7	n-pentane	20.96	821726	3542156
8	2.2-dimethylbutane	23.82	12577	68299
9	cyclopentane	25.91	72899	413950
10	2.3-dimethylbutane	27.31	33689	206175
11	2-methylpentane	28.08	265538	1712374
12	3-methylpentane	30.06	148309	1019368
13	n-hexane	33.55	407463	3207105
14	methylcyclopentane	37.41	207590	1866141
15	2.2-dimethylpentane	39.56	6698	69266
16	benzene	40.22	41010	397359
17	2.4-dimethylpentane	40.98	14037	146745
18	2.2.3-trimethylbutane	42.32	1254	13591
19	cyclohexane	46.33	230575	2781356
20	3.3-dimethylpentane	49.04	2632	31742
21	1.1-dimethylcyclopentane	52.76	19077	259061
22	2-methylhexane	54.44	68473	966511
23	2.3-dimethylpentane	54.97	19851	283239
24	1-c-3-dimethylcyclopentane	57.72	27509	427909
25	3-methylhexane	58.27	70195	1068190
26	1-tr-3-dimethylcyclopentane	59.58	25107	389230
27	1-tr-2-dimethylcyclopentane	60.70	41558	664160
28	3-ethylpentane	62.13	5271	85519
29	reference peak	65.55	63004	1147394
30	n-heptane	73.02	142324	2934483
31	1-c-2-dimethylcyclopentane	77.40	5188	115093
32	methylcyclohexane	80.93	202164	4845160
33	1.1.3-trimethylcyclopentane	83.99	9808	224389
34	2.2-dimethylhexane	86.19	1592	38340
35	ethylcyclopentane	88.90	8611	212691
36	2.5-dimethylhexane	94.45	4420	119138
37	not present	0.00	0	0
38	2.2.3-trimethylpentane	96.74	5877	151733
39	1-tr-2-c-4-trimethylcyclopentane	100.03	8315	239493
40	toluene	101.70	71459	2026908

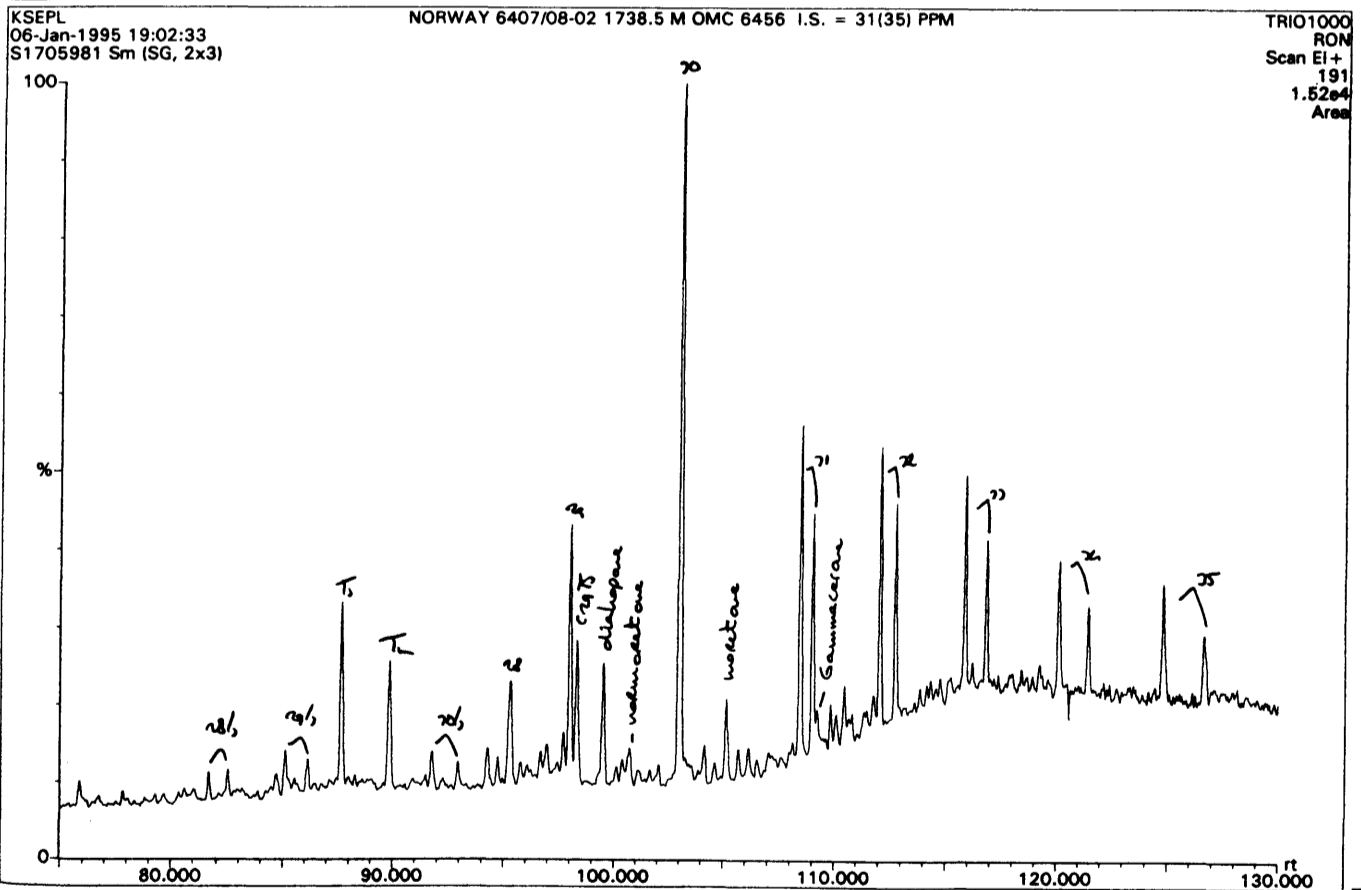
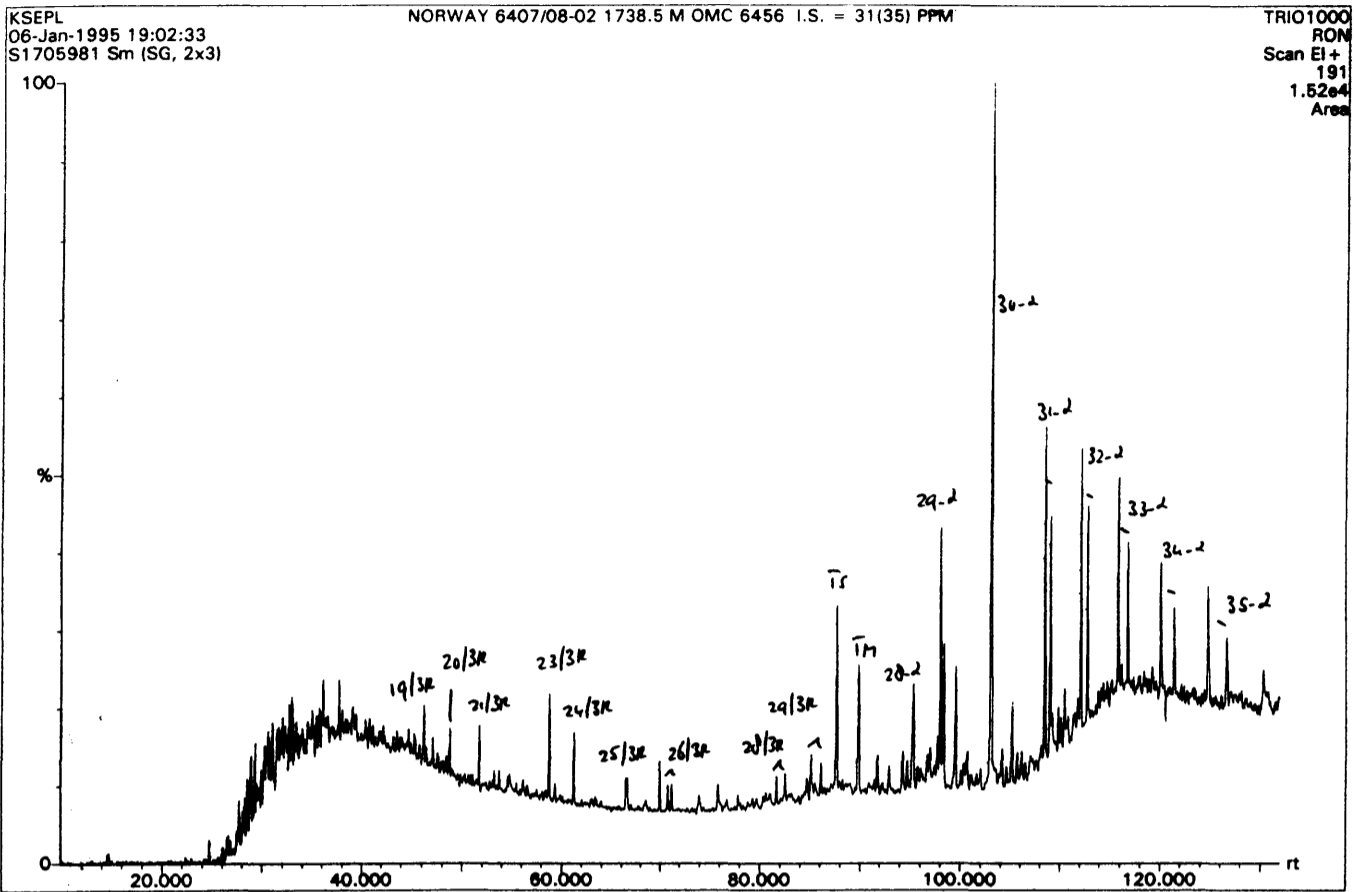
total area excluding i.s.: 37364056

Weight percentage internal standard: 0.66
Weight percentage C7 fraction : 21.49

Sterane Fragmentograms of the oil sample from well 6407/08-02 (1738.5 m.), Norway

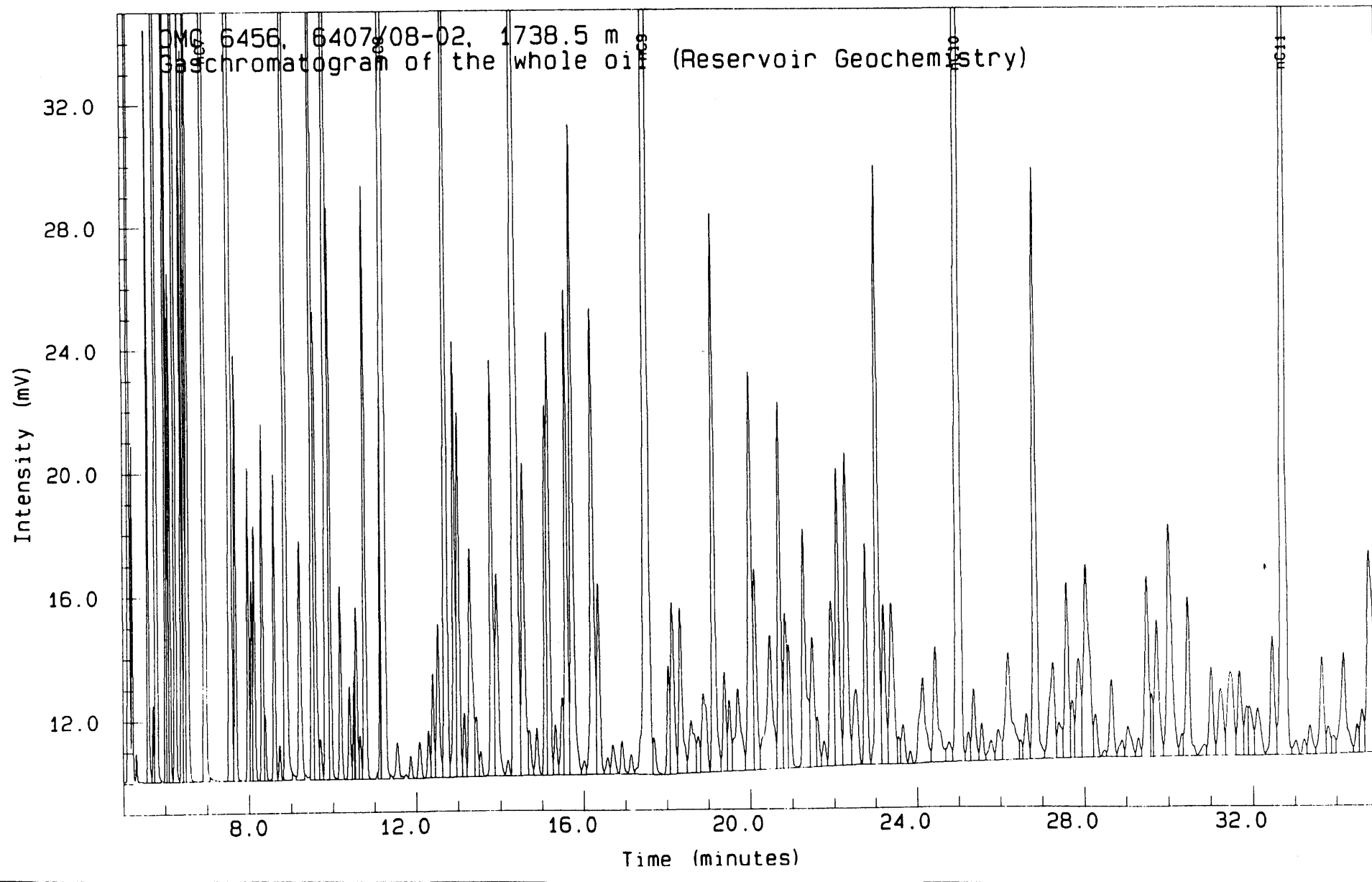


Triterpane Fragmentograms of the oil sample from well 6407/08-02 (1738.5 m.), Norway



*Enlarged part of the whole oil gas chromatogram from
well 6407/08-02 (1738.5 m.), Norway*

104650113



Data for the enlarged part of the whole oil gas chromatogram from well 6407/08-02 (1738.5 m.), Norway

Injection Report

Acquired on 13-DEC-1994 at 03:02

Sample Name : OMC 6456, 6407/08-02, 1738.5 m
 Sample Id : S170598/1
 Sample Type : Sample Amount=0.00000
 Bottle No : 1

Peak RT mins Hght uV Area uVs Peak name

Peak RT mins	Hght uV	Area uVs	Peak name
46	11.229	94404	366339 nC8
47	11.541	1191	5994
48	11.861	741	2819
49	12.077	1199	5598
50	12.285	1547	5784
51	12.387	3379	13623
52	12.520	4981	24594
53	12.704	43590	173689
54	12.912	14140	57736
55	13.008	11825	47951
56	13.144	2098	8631
57	13.285	7398	41310
58	13.427	1982	8310
59	13.533	834	3268
60	13.789	13531	63004
61	13.915	6583	34774
62	14.176	532	2459
63	14.341	48245	267354
64	14.547	10162	57060
65	14.693	1429	6885
66	14.872	1508	7364
67	15.091	11978	47822
68	15.160	14335	64549
69	15.317	1623	8051
70	15.480	2487	10909
71	15.587	15706	72292
72	15.728	21096	104230
73	16.008	434	2362
74	16.213	15094	86832
75	16.357	6150	30329
76	16.568	537	2922
77	16.696	929	5762
78	16.915	1061	5193
79	17.139	629	3095
80	17.547	67399	372721 nC9
81	17.685	1217	5933
82	18.037	3519	15221
83	18.133	5571	32837
84	18.328	5365	30894
85	18.579	1718	15835
86	18.749	1190	5961
87	18.875	2612	21890
88	19.136	18130	93388
89	19.384	3219	17290
90	19.504	2302	12252
91	19.712	2655	25972
92	20.021	12993	80262
93	20.125	6523	33160
94	20.485	4344	45030
95	20.715	11898	61404
96	20.848	5035	26319
97	20.931	3991	19292
98	21.288	7728	49192
99	21.496	4228	27604
100	21.611	1642	7513
101	21.768	834	4832
102	21.941	5396	36313
103	22.099	9667	57015

PEAK INFORMATION

Peak RT mins Hght uV Area uVs Peak name

Peak RT mins	Hght uV	Area uVs	Peak name
1	3.987	14518	59536
2	4.379	987572	11017527
3	5.600	24409	51211
4	5.725	2478	4971
5	5.795	179299	371203
6	6.029	61683	122819
7	6.048	34243	49188
8	6.123	16476	36795
9	6.248	65102	142785
10	6.403	25464	57781
11	6.477	23752	55363
12	6.549	39059	101777
13	6.957	160311	392237 nC7
14	7.565	238867	658921
15	7.680	13768	37628
16	7.984	10157	27947
17	8.069	6495	17975
18	8.133	8252	23888
19	8.320	11568	32922
20	8.363	2221	6493
21	8.608	9963	29437
22	8.736	1198	3552
23	8.875	85232	261545
24	9.216	7667	34246
25	9.520	44002	140177
26	9.557	15972	57323
27	9.707	1321	5020
28	9.856	62828	235832
29	9.933	18551	58325
30	10.181	6254	21351
31	10.397	3021	10457
32	10.515	3297	7696
33	10.517	3325	1061
34	10.520	3357	1070
35	10.523	3413	1084
36	10.525	3503	1107
37	10.528	3625	1141
38	10.531	3789	1187
39	10.533	3973	1243
40	10.557	5569	18270
41	10.651	1413	4963
42	10.765	19282	68303
43	11.149	11841	18542
44	11.152	12314	3865
45	11.155	12788	4017